ARMED FORCES MANAGEMENT

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ARMY • NAVY
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MARINES

JUNE
1956

Feature

Engineering in the Coast Guard
By Rear Admiral
Kenneth Cowart

On The Cover

Rear Admiral Kenneth K. Cowart, Engineer-in-Chief of the Coast Guard, a native Georgian, was graduated from the Coast Guard Academy in 1926.

His career has included many years of service afloat in peace and war. He won the Silver Star in anti-submarine action on the North Atlantic. In 1950 he was appointed Engineer-in-Chief of the Coast Guard and in 1954 was reappointed to serve a second term.

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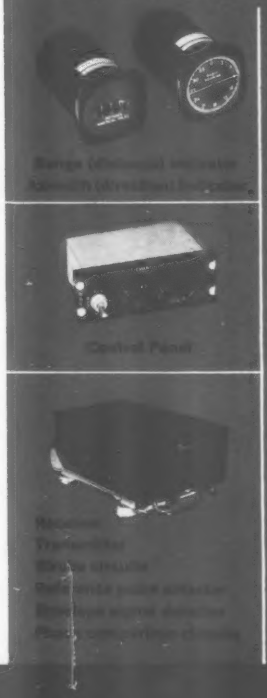

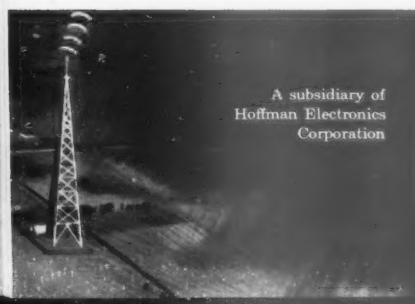

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For want of a nail the shoe is lost,
for want of a shoe the horse is lost,
for want of a horse the rider is lost.

George Herbert's statement applies to electronics today as it did to riders three centuries ago. The point may be illustrated by considering a vital electronic unit made up of thousands of components. If the least of these components fails, the whole unit may fail—and with it a strategic military mission.

The problem of *reliability* is becoming increasingly important as the science of electronics advances. "Black boxes" are hard pressed to perform more complicated tasks with increasing efficiency. And at the same time, the requirements call for smaller dimensions. Notwithstanding environmental extremes of an order hitherto unknown, every resistor, capacitor and relay *must* perform *reliably*. Each "nail" is critical.

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DEPENDABLE, SCHEDULED SERVICE SAVES MILLIONS OF VALUABLE MAN HOURS FOR THE MILITARY

By Rear Admiral Kenneth Cowart

Engineering in the Coast Guard

1001 Coast Guard Operating Units

346 Floating Units
126 Aircraft
22 Aircraft Facilities
304 Lighthouses
15 Radio Stations
47 Loran Stations
141 Lifeboat Stations

THE COAST GUARD is a part of the armed forces of the United States. Serving under the Treasury Department the Coast Guard has a multiplicity of peacetime duties in addition to a responsibility for being ready to fight as a part of the Navy in time of war. The peacetime duties, prescribed by law, deal primarily with safety of life and property at sea and with law enforcement. Twenty-four hours a day, in all kinds of weather, the Coast Guard assists ships and boats on all navigable waters of the U. S. as well as across the oceans and it provides them with navigation systems and aids to insure their safe passage. The weather is observed from ships stationed in mid-ocean and is reported to the Weather Bureau and to aircraft overhead. Pathways are broken through ice fields to aid the passage of cargo carriers. These and many other functions are the responsibility of the Coast Guard.

Coast Guard units dot the surface of the earth from Greenland to Guam, from the Great Lakes down through the Gulf of Mexico. The year just past saw powerful Coast Guard icebreakers return to the now familiar waters of the Arctic and the Antarctic. The Coast Guard goes wherever its services are needed.

In the accompanying block 1001 of our operating units are listed. More are needed to do our job and there are in fact a total of 1746 manned operating facilities in existence today, including bases, depots, a modern shipyard, merchant marine inspection offices, the Academy and many other types in addition to those listed. And there are thousands of unmanned facilities such as buoys, beacons, fog signals and navigational ranges.

These numerous facilities, which perform the Coast Guard's every day functions, are individually small. A recent management survey of the Coast Guard emphasized that over 1100 of our units are manned by fewer than 25 men each. Less than 75 of our units employ over 100 men each.

The engineering management problems of the Coast Guard are made complex by our many different and vital peacetime duties as well as by the wide dispersal of our thousands of manned and unmanned facilities. The requirements for military readiness increase the management problem. We must design and build almost all of our many types of facilities. We must extend effective maintenance of these facilities to remote areas. Our lines of communication are necessarily thin. However, upon the effective performance of these small units depends the safety of countless lives daily.

Engineering Organization

The Engineer-in-Chief of the Coast Guard is charged with designing, constructing and maintaining our many facilities. The Office of Engineering is one of five major offices under the Commandant, with Headquarters in Washington. The other offices are: Operations, Merchant Marine Safety, Personnel, and Comptroller. To extend his control effectively over a large geographical area, the Commandant is assisted by twelve District Commanders. The Commander of each District has in turn a staff similar to that of the Commandant, including a District Engineer.

Thus the Engineer-in-Chief extends his control over our many remote units through these twelve District Engineers. Because of the variety of facilities which the Coast Guard employs, the Office of Engineering is divided into five technical divisions:

Aeronautical Engineering
Civil Engineering
Electronics Engineering
Naval Engineering, and
Testing and Development

To describe further our organization, I will discuss the part played by each of these five divisions.

Aeronautical Engineering

The Coast Guard operates some 126 helicopters, land planes, and amphibians. We have 14 different types. They fly daily out over the oceans, lakes and harbors in all kinds of weather. To meet their many and varied duties these aircraft should be specially designed. However, to design so many basic types of aircraft would be most expensive and unwise. Thus we turn to the Navy, the Air Force and industry for our basic designs. Our Aeronautical Engineering Division adapts the basic designs to meet Coast Guard requirements.

Maintenance of our aircraft on the other hand, is a job we must perform. These aircraft must be always ready to answer the call to save a life. Our 22 aircraft stations and air detachments, from Puerto Rico to the Philippines and from Alaska to Newfoundland, are equipped and staffed to keep their equipment in top operating condition. When the time comes for a major overhaul or an extensive modification, the plane is sent to our repair base in Elizabeth City, North Carolina, or to a major repair base of another activity. The Aeronautical Engineering Division supervises this continuing maintenance and modification program.

Three of a new class of 95 patrol Boats designed by Coast Guard Engineers and built at the Coast Guard Yard.

Civil Engineering

Some 22,000 shore structures and 38,000 buoys are designed, built and maintained by our Civil Engineers. The structures range from day markers along river banks to the loran station on Iwo Jima, from Lighthouses and docks to the many buildings of the Academy. The buoys, found on all our navigable lakes, rivers, and coastal waters, range from a small experimental plastic type to large 15 ton steel buoys carrying a light and a radio transmitter.

To design and build a loran transmitting station located in Arctic wasteland, or a buoy marking the entrance to New York Harbor is a job calling for special depth and breadth of knowledge. Design work of this type is done in our Civil Engineering Division. Local knowledge of building sites and peculiarities of the area are necessary in such design. We rely upon the office of the District Engineer for such information.

Maintenance of this vast number of structures can only be guided from our Headquarters. The real job must be accomplished by the District organization through employment of our own maintenance personnel or through private contractors.

Electronics Engineering

Almost every Coast Guard operating facility uses some form of electronics daily. The rescue aircraft over the Western Pacific, the radio beacon on the Atlantic Coast, and the loran transmitter guiding ships through perilous Alaskan waters all employ highly complex electronic equipments in the everyday conduct of the Coast Guard's business.

To design and maintain transmitters and receivers that will offer the highest reliability, that will function perfectly in time of distress, is the responsibility of the Electronics Engineering Division and of its field counterparts in all the Districts. Industry and the Navy Department provide a strong support in the design of our equipments. Daily maintenance is the job of those who man the facility.

In the field of electronics, standardization is an important management tool. It has been said that "the only thing that is standard is change," but in this technical area standardization is specially valuable. To reduce maintenance and logistic problems, our Electronics Engineering Division has adopted the modular or "building block" technique of design to most new developments. This technique permits flexibility in adopting the primary "building blocks" to varying power output requirements, thus reducing the number of different equipments in the overall system. In addition, the need for maintenance personnel is reduced.

Naval Engineering

Ships and boats of many types, operating in widely dispersed waters, have been perhaps the best known feature of the Coast Guard since its origin in 1790. They vary from the motor self-bailing lifeboat standing guard at the Columbia River Bar to the 5,000-ton icebreaker on the Great Lakes, from the Voice of America broadcast ship in the Eastern Mediterranean to the buoy tender on the Mississippi.

The Naval Engineering Division must supervise the design, construction, and maintenance of our fleet. Since our ships must not be disabled for long periods for repairs design is important. Maintenance is costly and we strive to be as self-sufficient in this area as possible. Coast Guard engineers today

design with future ease of maintenance as a prime consideration. Effective maintenance carefully supervised by the District Engineer and his staff is essential to keep these vessels ready to put to sea when a merchantman is on fire or a weekend pleasure craft is caught in a sudden storm.

Testing and Development

With so many functions demanding the best of our people and their equipment, the Coast Guard needs a special organization whose job it is to find better, and we hope cheaper, materials, methods, devices and techniques. Our Testing and Development Division, a small centrally located function, is Coast Guard Engineering's answer to this important management problem. Its job is to learn of new things which may be of value to the Coast Guard and of their suitability for our use. New ideas coming from our operating personnel need development, refinement and perhaps standardization. The Testing and Development Division does this. For basic research we lean on the Office of Naval Research, other government agencies and on the technical world at large.

The Methods of Coast Guard Engineering Management

The management of engineering in the Coast Guard's sprawling plant calls for centralized policy development, but the actual administration of the job is decentralized to the field where feasible. As explained in the work of our Headquarters Divisions, the design work is generally done centrally while the construction and maintenance are field functions, following standardized procedures.

In financial matters, Headquarters limits itself to broad problems that affect all the Districts or involve considerable amounts of money. The planning of large construction projects and certain kinds of central purchasing are functions of the Engineer-in-Chief. The installation of a new boiler for example, or the purchase of replacement equipment is done by the District. The District Engineer plans the expenditure of his maintenance funds to match the priority demands of his District Commander.

As a part of its engineering policy control, Headquarters has established five programs to guide the Districts and the whole Coast Guard in the orderly management of its business:

The Advance Construction Program

The changing functions of the Coast Guard occasioned by the needs of merchant and naval shipping, overseas air travel, and private boating require constant reevaluation of our facilities. Demands for new facilities arise. Old ones must be modernized. Facilities are disestablished or relocated. These demands are summed up in the Advance Construction Program which outlines the work to be done in the years ahead.

The Annual Construction Program

Each year as the Advance Construction Program is analyzed, that part which can and should be done in the coming year is set down more explicitly. Detailed engineering plans and estimates are compiled into an Annual Construction Program.

Current Maintenance Programs

Much of our maintenance work can be foreseen months or even years ahead. This work on ships, aircraft, structures, aids to navigation and electronics equipment is laid down as a Current Maintenance Program in each District.

The Planned Obligation Program

Funds are a real limitation on the Coast Guard's Engineering work as it is in any similar activity. The rate of expenditure of our construction and maintenance appropriations must be given careful attention. The Engineering Divisions at Headquarters exercise general control over the District Engineers through quarterly allocation of funds. Each District adds up all of its scheduled work, compares the cost estimates with available moneys, and prepares a Planned Obligation Program.

The Deferred Maintenance Program

Emergency maintenance items frequently arise which push lower priority work into the background. When the low priority job can no longer be fitted into the Planned Obligation Program it drops down into the Deferred Maintenance Program where it becomes a part of our future budgeting.

Management methods must cover more than technology, finance, and the planning of work. Of first importance are the people in Coast Guard Engineering. When facilities are small and widespread, no amount of organizing and programming can be effective without people who are loyal and dedicated to their work. In the Coast Guard, engineering is accomplished by a team of military and civilian personnel. As in other phases of our effort, policies regarding personnel originate in Headquarters while the field activities have the responsibility of providing sound, strong administration.

This is the story of the management of engineering in the Coast Guard, a problem that is met by a fine group of people who are dedicated to the Coast Guard motto —"Semper Paratus."

The Coast Guard Loran Station on Bataan. Designed by Coast Guard Engineers and built by Coast Guardsmen with the aid of Philippine labor.

Major General Kingston Tibbetts entered military service as a flying cadet at Fort Hayes, Ohio, in October 1927, graduated a year later, was rated a pilot, and commissioned a second lieutenant in the Air Reserve.

He was at Pearl Harbor when the Japanese struck on December 7, 1941. In February, 1942, he became assistant Chief of Staff, A-4 of the Seventh Air Force in the Pacific, in which capacity he served until December, 1944. He also commanded the VII Air Service Area Command during part of this period and served at Funafuti, Tarawa, and Saipan.

In November 1952, he was named Commanding General of the Warner Robins Air Materiel Area and Robins Air Force Base, Ga.

General Tibbetts has been awarded the Legion of Merit, Air Medal, Bronze Star Medal, Army Commendation Ribbon, American Defense Ribbon with one battle star, American Theater Ribbon, Asiatic-Pacific Ribbon with five battle stars, and the World War II Victory Medal.

Management Concepts of the AMC Comptroller

By Major General K. E. Tibbetts

THE AIR MATERIEL Command is constantly striving to keep its management system in pace with the accelerated operations of the modern Air Force.

AMC exists solely to support the Air Force. The Command's mission is to see to it that the combat squadrons are supplied with up-to-date equipment, when and where they need it.

It's a mammoth job. Differing from other Services, the Air Force has a focal point for all logistics management, with a single command—the Air Materiel Command—in charge of the Air Force Logistics System.

To understand the manifold responsibilities of management in an organization of the size and scope of AMC, it is necessary to review some pertinent facts concerning its overall operation.

During Fiscal Year 1955, Air Force procurement actions in the continental United States amounted to about $6,500,000,000. Nearly four and one-half million tons of supplies were shipped to 300 Air Force bases and 1,800 other military installations all over the world in FY 1955.

Stocked in AMC depots known as field installations are over 1,200,000 items as compared with one large merchandising firm whose catalog lists some 100,000 items. At the depots and through maintenance contracts awarded to private industry, about 37,000 aircraft engines and 12,500 aircraft were repaired in 1955.

In summary, the mission of Air Materiel Command is to provide materiel support for the Air Force by determining requirements, buying equipment and supplies, storing and distributing them, repairing and modifying them, and disposing of obsolete and excess items.

At Headquarters AMC and at its field installations, the Comptroller has an integral part in management of AMC's varied activities, and has instituted modern methods of management control.

The Comptroller essentially is a staff agency organized to assist the Headquarters staff and the installation Commanders in achieving the AMC objective of acquiring adequate resources and using them efficiently.

It is the Commptroller's job to provide to top management summarized information regarding the size and scope of the AMC workload, the resources available in the form of manpower and money for accomplishing this workload, and the effectiveness and efficiency with which the workload is being accomplished. Simultaneously, we provide all levels of management complete information regarding their activities, so as to furnish a basis for decision and for achieving higher levels of productivity and efficiency.

The Comptroller is essentially a service organization; it does not control. No management decisions are made by us, except in the operation of our own organization. It is our job to analyze situations, giving due consideration to all factors involved, and to make forecasts and recommendations to the Commander and his managers who then determine what shall be done.

Also, the Comptroller constantly has an eye on reduction of costs, consistent with our goal of the best Air Force in the world. Unessential areas of operation are being eliminated as rapidly as they are found, and methods that achieve the same results with reduction in costs are recommended for adoption.

We have established the following specific Comptroller objectives, aimed at improving the services which we provide to management:

1. Promote installation and use of financial management systems.

2. Promote adoption and use of electronic data processing systems.

3. Improve the quality and timeliness of management data, and reduce the quantity to its essential minimum.

4. Streamline and integrate accounting and reporting systems.

5. Provide the Commander and his staff with significant operational analyses and forecasts.

6. Provide the Commander and staff with sound advice in the areas of financial management and management engineering.

The various Comptroller duties can be grouped into three broad categories. These are obtaining resources for AMC, accounting for use of the resources, and analysis of management problems.

Obtaining the Resources

The Budget Division administers and controls AMC's funding operations, including preparation and support of Command budget estimates and administration of the approved budget. The magnitude of this work can best be visualized by considering that—exclusive of military personnel appropriations—the AMC portion of the Fiscal Year 1956 budget represented more than half the money made available to the Air Force by Congress.

In addition, AMC must manage a financial cycle of several years. As many as six years may pass from the time when Air Force programs are initiated, to the date when the money is paid out and items are delivered by contractors. Many technical considerations crop up that prolong the cycle, such as manufacturing specifications and lead time.

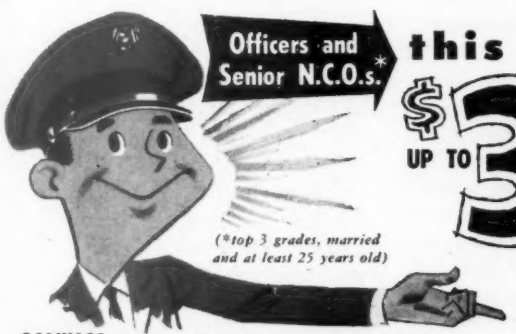
Effective financial management includes the large amount of money placed with industry. In this procurement area, the Budget Division is ever alert for major financial problems, that could delay the acquisition of materiel and services.

The size and importance of the AMC budget operation influenced AMC to establish a Budget Review Committee. The committee consists of the Vice Commander, Comptroller, Chief of the Budget Division, and other representatives of management. This committee reviews the entire AMC budget plan, including conformance with the budget structure, programming assumptions, validity of computations, pricing of requirements, and operational feasibility of the budget estimate. The review is followed by a decision whether the estimate can be financed during the fiscal year, based upon the ability of industry to produce and deliver acceptable material on schedule. Then the committee's findings and recommendations are presented to the Commander for final approval, before forwarding to higher authority.

Accounting for the Resources

It is a Comptroller duty to maintain records of the utilization of resources. This function has the important purpose of giving to managers current data they need to do an effective job.

The Accounting Division plans and administers the AMC accounting function. On July 1, 1954, AMC and all other major Air Force commands implemented a new double-entry, commercial-type, integrated accounting system. The objectives of the new system are to (1) provide a report of stewardship of world wide Air Force assets, which have been entrusted to AMC for management; (2) furnish data to management as required for decision-



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1. Additional operators under age 25 in household at present time:

Age	Relation	Marital Status	No. of Children	% of Use

2. (a) Days per week auto driven to work? .....One way distance is..... miles.
(b) Is car used in any occupation or business? (Excluding to and from work) ☐ Yes ☐ No
3. Estimated mileage during next year?.....My present policy expires...../...../.....
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making and program forecasting; and (3) make available yardsticks needed for measurement of accomplishment.

Under this system, balance sheets which reflect assets, liabilities and ownership of equity, are published monthly together with operating statements which list the expenses incurred. These financial statements are now available to all levels of AMC management.

With an investment of about 35 billion dollars, the task of managing this modern accounting system is one of major magnitude. An important facet of the problem is that of accounting for inventories, world-wide.

Under the old inventory control system, an item costing one cent was accounted for and reported in exactly the same way as an item costing $50,000. The drawbacks of such a system were obvious. With the advent of financial inventory accounting, which is now an integral part of the Air Force accounting system, AMC designed a system which uses variable controls based on dollar magnitudes. This program is called inventory categorization. The categorization program gives financial inventory data of three types: (1) by procurement source: (2) by type of item, i.e., expendable or non-expendable; and (3) by cost category (high, medium and low dollar value). These data allow management to focus its attention on the areas which represent major dollar investments. Emphasis can be placed upon the high-dollar assets. In the low cost area, where about 75 percent of the items represent only 10 percent of the dollar investment, controls by item are being reduced to a minimum or completely replaced with financial data.

The categorized information for low cost items is being used to prepare and support the budget for FY 1958. It is expected that the same method will be expended on a phased basis to the expendable items in the medium and high cost areas.

Accounting has been a highly mechanized operation in AMC for some time. The Comptroller's Statistical Services Division operates the mechanized system. In addition to its accounting function, Statistical Services also acts as a data-gathering and reporting agency. Today we have a world-wide network using over 2,100 electrical accounting machines.

The statistical operation devotes much of its time to the support of other functions. For example, its machines are used to compute material requirements, maintain inventory records, and prepare reports on the 230,000 personnel assigned to AMC.

To carry out one of the electronic data processing objectives mentioned earlier, we are acquiring a number of electronic computers for use throughout AMC. A UNIVAC computer has been in use at Headquarters, AMC, for sometime; at present, over 40 separate projects are taking up the 24-hour, 5-day week operating schedule of the UNIVAC.

The new machines can handle a vast amount of data; however, we are continuing to put emphasis on the reduction of detailed data and reports. The Reports Control unit carries out this responsibility.

The final step in the financial cycle is the task of paying out the funds. The Comptroller's Finance Division controls the disbursement of all appropriated funds in the hands of AMC.

During 1955, American industry billed AMC with about 1½ million invoices, amounting to 10 billion dollars. These accounts were settled promptly, and cash discount losses have been reduced to less than one-half of one percent. The cash discounts earned during one period amounted to 10 million dollars.

Analysis of Management Problems

In order to inform the Commander and his staff of existing and forecasted problems, the Comptroller's Management Analysis Division performs objective studies of the operating and financial data gathered by AMC. These studies provide significant facts and figures to determine the progress made toward attaining Command objectives.

In order to accomplish this important mission, the Analysis Division instituted the AMC management control system four years ago. The control system consists of the Management Evaluation System and Executive Control meetings.

The Management Evaluation System is a device for scoring the various AMC field installations on their relative progress and accomplishments in certain selected common activities. A spirit of healthy competition or rivalry among the field installations has resulted from the awarding of trophies based upon performance measures in the Management Evaluation System. Two trophies are presented quarterly and two annually to the leading installations. The quarterly trophies go to the air materiel area and Air Force depot which have shown the most improvement in the preceding quarter. The other trophies go to the AMA and depot which have had the highest performance during the preceding fiscal year.

The Executive Control meetings are held monthly. They are attended by the AMC Commander and his central staff, and by field installation commanders. At these meetings, adverse trends and problem areas are presented and examined. Subjects for presentation at these meetings are limited to those which are currently behind schedule or forecast, and those in which difficulty is anticipated. This is known as the "management by exception" principle. The assembled executives decide upon the corrective action which is needed.

Although it is not possible to measure in detail all phases of the many improvements which have resulted from the management control system, specific examples of increased effectiveness and efficiency, as well as reduced costs and time lags, are not hard to find. These examples are cited as indicative of the wide range of improvements realized from the system:

The "aircraft out of commission for parts" rate in the Zone of the Interior dropped from 6.0 percent in July, 1952, to 3.9 percent in February, 1956.

The delinquent price redeterminations were reduced from 52 percent in January, 1954, to 30 percent in February, 1956.

The shipping actions effectiveness increased in all phases of the operation, as shown in the following table:

	July 1952	Feb 1956
Shipping Actions		
Effectiveness	**82%**	**91%**
Overseas	**78**	**90**
Z/I Off-Base	**81**	**92**
Local	**86**	**92**

Comptroller Outlook

In summary, the future role of the Comptroller of AMC is indeed a most challenging one. We have scratched only the surface in the employment of modern management techniques. We are enthusiastic about the future, because, with the advent of electronic data processing machines, much needed data (heretofore not economically available) can be obtained at reasonable processing cost. We will be able to speed up our present services, and also enter into new areas in the business management field.

The KCAC Field Team

WHEN Lieutenant Colonel Earl Budatz looks up from his desk, he is faced by eighteen charts which cover the wide wall of his office from floor to ceiling. A formidable array of red, green and yellow curves, graphs and bars, the charts bearing titles such as "Commodity Price Indices," would make little sense to the casual inspector. To the Colonel, however, they are as important in carrying out his mission as the maps in a war room are to a combat leader.

Colonel Budatz is the commander of a typical Korea Civil Assistance Command field team — the East Central Regional Team in Taegu. The charts in his office represent the many fields in which he must assist the local government in speeding the economic recovery of Kyongsang Pukto province.

Helping him in this task are six civilian and three military experts. Among them is a Public Welfare Officer from Norway, a doctor from Portugal, an American agriculturist, a sanitarian whose home is in Scotland. Coming from many nations, these men are united by their wide experience in the Far East and their deep desire to help Korea.

Led by the team commander who advises the provincial governor, the KCAC experts work hand in hand with their counterparts in the provincial government.

The doctor, for instance, assists the public health section in the organization of vaccination programs, the distribution of medical supplies, the control of communicable diseases, the supervision over hospitals, dispensaries and mobile clinics. He assists in plans for technical forums, helps establish model health villages, advises on environmental sanitation, nutritional activities and nursing affairs, and has an interest in professional personnel qualifications.

In a similar manner, the Public Welfare Officer advises the social affairs section on the allocation of relief grain to the needy, on housing problems, the resettlement and assimilation of refugees and displaced persons, and the coordination of the work of private relief agencies, such as CARE, the American-Korean Foundation and others in the province.

To best carry out their work, the KCAC experts make frequent overnight motor trips to all corners of the province so that they can "see for themselves." On a typical field trip, the KCAC man, his provincial counterpart and an interpreter-translator, start out Monday morning in a ¾ ton truck and return Thursday night, having visited dozens of villages, resettlement projects, 4-H clubs, orphanages, police stations, hospitals and agricultural meetings.

The result of this work is consolidated in a Monthly Activity Report —known for short as the MAR. A complete document, heavily supported by statistical tables, it contains such varied information as the number of vaccinations and inoculations issued in the previous month, the average wages of laborers by industries, the number of persons appearing before court and their sentences, divorces, births, deaths, harvest prospects, resettlement problems, voluntary relief work, nurses' training, school enrollment, and so on.

The wealth of information assembled in these reports is the measure of the aid program. Consolidated in KCAC headquarters in Seoul, it provides planners with the estimates on which future relief and economic *aid requirements* are based.

The KCAC field teams, which often have been called the "foundation of the entire UN relief and economic aid program in Korea," were born during the conflict. Located in each province, their mission was to carry out relief measures necessary to prevent disease, starvation and unrest among the civilian population, so that frontline operations could be carried out unhampered by rear area developments.

At the end of hostilities, when it became possible to shift emphasis from relief to peaceful reconstruction and economic rehabilitation, the teams' mission was expanded to include supervisory responsibility for the aid program at the grassroot level.

In this role, the teams supervised the distribution of many hundred million dollars worth of relief and rehabilitation supplies.

Taegu, Korea at the monthly relief meeting.

As Korean officials gained proficiency in administering the relief and aid programs, it was possible to consolidate KCAC's ten provincial teams into five regional teams. Further progress on the part of the Koreans, has enabled the teams to decrease their supervisory responsibilities and concentrate on their advisory role.

As Brigadier General Mercer C. Walter, Commanding General of the Korea Civil Assistance Command recently said, "It is our aim to eventually work ourselves out of business here. Reducing our operational activities and concentrating on giving technical advice is only another step in achieving our ultimate goal—that of helping Korea establish a strong, self-sufficient economy independent of outside assistance."

ARMED FORCES MANAGEMENT ASSOCIATION

NEWS and ACTIVITIES

Aberdeen Proving Ground Chapter—The final meeting of the Aberdeen Proving Ground Chapter for 1955-1956 convened recently in the Main Lounge of the Officers' Mess. Following dinner, 110 members present at the business meeting heard Dr. Walter G. Held present the following annual awards:

Outstanding Professional Paper —Mr. E. C. Schroder.

Outstanding Implementation of Methods and Procedures—Management Engineering Division, Development and Proof Services.

New officers installed on that night were: President, Colonel R. P. Wilson, Deputy Director, D & PS; Vice-President, Mr. Ernest Kirkpatrick, BRL; Council members: Dr. W. G. Held, Deputy Comptroller; Mr. E. C. Schroder, TOTC; Lt. Col. P. Hickman, Special Assistant to Comptroller; Mr. R. P. Witt, Mr. G. W. Hayes, Dr. W. G. Held; Secretary-Treasurer, Mr. Joseph F. Gisriel.

The guest speaker of the evening, Major General J. H. Hinrichs, Deputy Chief of Ordnance, assisted by visual aids, addressed the chapter members on the subject: "Management Problems Encountered in the Ordnance Corps," which was recorded on tape to be transcribed and circulated to Aberdeen Proving Ground Chapter members.

Indiana Chapter—Officers for the 1955-1956 season recently elected by members of the Indiana Chapter, AFMA are as follows: President, Major H. A. Paynter; Vice-President, Major J. Brigandi; Secretary-Treasurer, Mr. Clyde B. Davis.

Great Salt Lake Chapter—The March luncheon meeting, held at the Officers' Club, Naval Supply Depot, Clearfield, was attended by twenty-eight members. Since membership invitations had been extended to quartermen and GS-9 civilian employees and officers of the rank of lieutenant, thirty-nine potentially new members also attended as guests. President W. J. Bush, SC, USN, welcomed the invited guests and encouraged them to join the association. Dr. Adam S. Bennion, guest speaker for that day, spoke on the National Education Problem with specific reference to the subject of federal aid to public schools. A panel discussion of the Defense Department's new policy on "single-manager assignments" was discussed at the April meeting.

Greater Boston Chapter—Thirty-seven members and guests attended the March meeting of this chapter. This meeting was the first in a new series which have as their theme a discussion of case studies of various management problems. The first case was obtained from a local university and dealt with the problem of how best to organize a research and development department.

A new program has been devised by the Greater Boston Chapter which sets a regular meeting time each month. The first month's meeting was devoted to a discussion of a case study of a management problem, the second month, a case study and for the third month, a speaker to address the group on "Management Improvement."

Atlanta Chapter—At the combined dinner-business meeting held recently at Fort McPherson Officers' open mess, Mr. Franklin Garrett, office of the Vice President, the Coca-Cola Company, spoke to the 45 members and guests present on "Management Communications." Mr. Garrett's presentation covered all aspects, methods, and problems of communications experienced in Coca-Cola Company's efforts to keep its personnel of their widely scattered organization well informed.

Study groups have been formed by the Atlanta Chapter to cover specific management problems in certain fields. Group chairmen named for this purpose are as follows: Management, Mr. H. H. Phillips, Ass't Chief, O & M Branch, Mgmt. Division, Comptroller Sec. Hq., THIRD Army; Logistics, Mr. K. O. Alford, Development and Promulgation Branch, Log. Management Division, G-4, Hq, THIRD Army; Civilian Personnel, Mr. J. N. Smith, THIRD Army Civilian Personnel Officer; Intelligence, Lt. Colonel W. L. Adams, Jr., Prog. Officer, G-2 Section, Headquarters, THIRD Army.

Speakers engaged by the Atlanta Chapter through calendar 1956 to address the monthly meetings which are held on the third Monday of each month at Fort McPherson are as follows:

21 May 1956: Mr. Richard A. Stout, Executive Secretary Printing Industries of Atlanta.

18 June 1956: Lt. General Hickey, Commanding General, THIRD Army.

17 September 1956: General A. R. Clancy, USA (Ret.) Vice President, General Motors Company. Subject: "Philosophy of Management."

19 November 1956: Speaker to be provided by the Department of the Army to speak on "Personnel Management."

17 December 1956: Speaker to be provided by the Department of Defense, to speak on "Management Forecasts."

San Francisco Bay Area Chapter No. 10—Mr. Walter Tait, senior training specialist of the Standard Oil Company of California, addressed the dinner meeting of the San Francisco Bay Area Chapter at the Fort Scott Officers' Mess, Presidio of San Francisco, Thursday evening, 19 April. Mr. Tait's talk was entitled, "Opinion Polls: What They Tell You About Your Employee Relations," in which Mr. Tait discussed the methods used by Standard Oil in taking opinion polls of 16,000 employees in 1951 as compared to 1955; the information gained from the polls and the action taken by the company as a result of the information collected.

Fort Monmouth, New Jersey—"Industrial Research, a four-billion-dollar-a-year enterprise, is an industry run without profit and loss statements," members of Central New Jersey Chapter, AFMA were told at the April 24 dinner meeting held at the Fort Monmouth, N. J. Officers' Club.

The speaker was Dr. Oliver G. Haywood, Jr., manager of the Waltham Laboratories, Sylvania Electric Products, Inc., and his address was entitled, "Decentralization, the Key to Engineering Management." "The judgment as to what is good work and what is bad must be made through evaluation of the quality of accomplishments and the vision of the goals," said the speaker. Concluding his remarks to the members present, Mr. Haywood said: "Decentralization of authority through the line organization permits these qualitative judgments to be made by those in the best position to judge technical quality. Staff Engineers are thereby freed for assignment to the line organizations where they can contribute directly to the company's productivity."

Messers E. W. Petrillo of the Signal Corps Engineering Laboratories and J. P. Hoffman, Chief of Information at Fort Monmouth, have been appointed to important committee chairmanships in the Fort Monmouth Chapter.

Colonel Carolus A. Brown, Chapter President, has designated Petrillo to head the program and meetings committee, and Hoffman as the Chapter's new membership committee head.

Fort Benning, Ga. The fifth meeting of the executive council was held in early April. The slate of officers approved for the coming year includes: President, Dr. Harold Tate, director of Instruction's office, The Infantry school, First vice president, Colonel Clyde D. Oatman, Dental Surgeon; Second vice president, Lt. Col. Alfred Coffey, Automotive department, Infantry school; Secretary-treasurer, Second Lieutenant Ruth Albright, Comptroller's office; Ass't. Secretary-treasurer, Dana Sperr, Comptroller's office; Executive Council members, Colonel Markley, Colonel Gall, Mrs. Ruth K. McKnight.

In addition to other business, plans were crystallized for the establishment of an annual chapter award to the activity on the Post demonstrating the most outstanding use of advanced management techniques each year. Also, four new members were added to the chapter roster, bringing chapter membership to 71 persons.

Crossed Wires

Through a cross-up of signals, we incorrectly attributed in the contents page of a recent issue an article authorship to Carolus Brown for which we apologize. That statement was incorrect.

DOD SUPPORTS AFMA AND ITS OBJECTIVES

The Honorable Henry A. Du Flon, Deputy Assistant Secretary of Defense for Manpower, Personnel and Reserve gave opening address at Second Annual AFMA Conference.

In opening the Second Annual Armed Forces Management Association Conference which convened on 25 May 1956 at Fort Myer, Virginia, the Honorable Henry A. Du Flon, Deputy Assistant Secretary of Defense for Manpower, Personnel and Reserve told the conferees present that the Armed Forces Management Association has the endorsement and support of all top-side officials in the Department of Defense.

"The Department," said Assistant Secretary Du Flon, "realizes the

SCHEDULE
SECOND ANNUAL AFMA CONFERENCE

0800-0900	Registration—Lobby, Post Theatre, Fort Myer, Virginia
0900-0915	Welcoming Address, Post Theatre, Fort Myer, Virginia
0915-0930	Opening Address by Deputy Assistant Secretary of Defense for Manpower, Personnel & Reserve, Mr. Henry A. Du Flon
0930-0945	Coffee Break
0945-1145	Navy Management Presentation for Conferees, Post Theatre, Fort Myer, Virginia
1200-1320	Luncheon and Luncheon Address, Patton Hall, Fort Myer, Virginia—The Honorable David S. Smith, Ass't Secretary of the Air Force
1330-1520	Air Force Management Presentation for Conferees, Post Theatre, Fort Myer, Virginia
1520-1540	Coffee Break
1540-1730	Army Management Presentation for Conferees, Post Theatre, Fort Myer, Virginia
1800-1900	Social Hour, Patton Hall, Fort Myer, Virginia
1900-1945	Dinner, Patton Hall, Fort Myer, Virginia
2000-2045	Dinner Guest Speaker, Vice Admiral Francis C. Denebrink, Commander Military Sea Trans. Service, Patton Hall, Ft. Myer
2100-2200	Open business meeting of Association, Patton Hall, Ft. Myer

potential value and tremendous good that an organization such as AFMA can do in achieving better management in the military establishment." "The Chapters," continued Mr. Du Flon, "which are world-wide provide focal points for interchange of ideas and techniques which stimulate responsible officials and local management personnel to do a better job.

"Since management, in general, covers such a broad field of endeavor, active participation by Chapter members will contribute immeasurably towards a more refined and economical, and a better defense effort for every dollar spent."

"It is my hope as well as the wish of the Secretary of Defense," concluded Mr. Du Flon, "that AFMA membership will increase, enthusiasm to achieve its objectives will continue to grow, and soon AFMA Chapters will be chartered at every military installation throughout the world."

JUNE ANNIVERSARIES

Founding of the Regular Army	14 June	1775
Army Finance Corps	16 June	1775
Army Corps of Engineers	16 June	1775
Army Adjutant General	16 June	1775
Army Quartermaster Corps	16 June	1775
Army Signal Corps	21 June	1860
Navy Judge Advocate General	8 June	1880
Navy Hospital Corps	17 June	1898
Army Chemical Corps	28 June	1918
Military Air Transport Service	1 June	1946

New Procedures Will Affect Cost-Reimbursement Contracts

Revision of procurement procedures to discontinue predetermined fixed overhead rates in cost-reimbursement type contracts was announced by the Department of Defense. In the future, predetermined fixed overhead rates may be replaced by rates negotiated on an after-the-fact basis.

Under the new procedures, contractors will submit proposals representing claims for fixed or firm overhead rates after the close of period stipulated in contract.

The new procedures which will appear as an amendment to the Armed Services Procurement Regulations are expected to be effective not later than July 1, 1956.

The action is being taken as a result of an opinion of the Comptroller General that the use of predetermined fixed negotiated overhead rates in cost-reimbursement contracts violates a statutory prohibition against the cost-plus-a-percentage-of-cost system of contracting.

Contracting officers of the Department of Defense are advising contractors having such contracts that the provision for use of predetermined fixed overhead rates in such contracts will be discontinued.

Separate procedures are being developed to cover contracts with non-profit and educational institutions not included in the present revision.

Mr. Henry A. Du Flon was appointed Deputy Assistant Secretary of Defense for Manpower and Personnel on February 1, 1955.

Prior to his present assignment, Mr. Du Flon was Special Assistant to the President's Advisor on Personnel Management at the White House. In this capacity, he specialized in legislation and programs for overseas personnel, and many other phases of personnel practices in Government. He also worked with the Secretary of State's Public Committee on Personnel, as well as with other advisory groups on manpower and personnel problems.

A resident of New Canaan, Connecticut, Mr. Du Flon received his education at Berkshire Preparatory School, Princeton University and the Harvard University School of Business Administration.

Entering the Army as a private in early 1941, he was promoted through the ranks and graduated from Officers Candidate School in 1942. Mr. Du Flon was released from active duty as a major in 1946. The last two years of his active service were spent in Headquarters of the Army Ground Forces in Washington, where he served as Chief of the Domestic Assignment Branch, Chief of the Liaison Personnel Branch, and as Assistant Adjutant General, Army Ground Forces.

Following his release from active duty, Mr. Du Flon became associated with the Bigelow-Sanford Carpet Company. From 1946 to 1948, he was Assistant Manpower Manager of that firm, and from 1948 to 1952 served as Assistant to the President of Bigelow-Sanford, specializing in organization planning, control, communications, public relations, and foreign operations.

During the period 1952 to July 1953, Mr. Du Flon was a management consultant in the fields of organization and personnel. As such, he was engaged in projects in Europe and South America.

Conservation through Suggestions

Naval Air Station, Alameda, California. An improved method of repairing distributor condensers on R-3350 engines, won for Mr. Russell D. Parady $265.00 recently. Station employees have received a total of $2940 in suggestion awards reported to save the Department of the Navy $62,903 annually.

Fort Benning, Georgia. Two sergeants and a warrant officer at the U. S. Army Hosiptal have been awarded Work Simplification Certificates for suggestions which will save more than 280 man-hours and $450 annually. Sgt. Arvil Dunaway suggested that all electricity be turned off on hospital wards during the afternoon rest period, for a saving of $394 per year. Sgt. James E. Mason who consolidated the card index files of the Information Section, is credited with saving 106 man-hours annually and releasing valuable file equipment for other use. Chief Warrant Officer Edward D. Hamlett suggested relocating the patient's dressing room will save 180 man-hours and 102 non-vehicular miles of travel annually.

11th Air Division (Defense), APO 731, Seattle, Washington. Two awards for management improvement were presented recently by Brigadier General Alan Bennett, USAF, Commander, for the first quarter of 1956. T/Sgt. Calvin H. Cain, a member of the 449th Fighter Interceptor squadron, and 1st Lieut. J. I. Olvarez, Finance Officer of the 11th, were the recipients. Major Lawrence E. DeZonia, commander of the 449th, accepted the Management Improvement plaque for first quarter of '56 in behalf of his men during the ceremonies.

Norfolk Naval Shipyard, Portsmouth, Virginia. A beneficial suggestion for adapting staging for use in protecting deck and hatch openings, in order to save time and material, has been presented to William A. Fell. Estimated to save the Government $28,320 in its first year of adoption, the suggestion brought a top cash award of $300 to its suggestor.

Headquarters Area Command, APO 403, New York. Management improvement actions implemented in HAC have resulted in tremendous savings over the past year. A few include, European Exchange System taking over utility costs, savings in telephone calls, decreased floor space requirements, automatic bookkeeping machines, a central freight organization at Mannheim-Rheinau and numerous other improvements.

Palm Beach Air Force Base, Florida. Major James Lamiell, USAF and M/Sgt. Howard Pope, USAF, 1741st Air Transport Squadron, recently designed a new and more efficient engine take-off performance chart for the C-118 transport. The new single chart incorporates the previously required six, which allows computing engine performance for take-off in less than one minute. Copies of the chart are available from the Commander of the 1741st Air Transport Squadron, Palm Beach AFB, Florida.

Naval Ammunition Depot, Hawthorne, Nevada. A new device credited with more than $100,000 in labor, material and overhead charges, which speeds recovery of brass from unserviceable primers by blowing out the charge instead of burning. Suggested and designed by CWO Paul R. Smith, USN, Boatswain Mate First Class William D. Kimmel, USN, and Mr. Ralph E. Reis, the new system is 22 times faster than the old burning method, and has materially increased the value of the brass scrap. All types of percussion and combination primers can be processed in the new cabinet.

Monthly Investment Plan

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Badger Ordnance Works, Baraboo, Wisconsin. Mr. Ernest J. Krubsack was the recent winner of a $40 suggestion improvement check from Mr. Mike Clark, Maintenance Superintendent.

Little Rock Air Force Base, Arkansas. M/Sgt. James C. Lynes, 70th Air Refueling Squadron, has manufactured a tool used for the removal of the starter drive support assembly on R-4360 engines, which cuts the 16 man-hours formerly required to a total of four.

Department of the Navy. A new slogan saying that if every person in the Naval service conserved one cent every day, the annual saving to the Navy would exceed $3 million, is expected to assist in the conservation program.

White Sands Proving Ground, New Mexico. Mr. Jack L. Pickle, Technical Advisor for the Missile Electronic Section of the Corporal Project, was recently presented a check for $300 by General Laidlaw for the design and fabrication of a test unit which isolates component malfunction in the control mechanism of the Corporal Missile. Jentry Kendall, Supervisory Laboratory Mechanic, EML, was awarded $300 for outstanding performance during the Work and Suggestion ceremony. WSPG participation during the past three months established for them an all time record. Twenty-eight suggestions were adopted during the quarter for which a total of $1.720 was awarded to employees. Estimated first-year savings from these ideas of $21,238.91 in addition to the numerous intangible benefits were derived.

New Orleans District, Corps of Engineers, Louisana. The largest cash award ever presented was recently given to Mr. W. C. Carey for suggesting the use of ⅜" extra high strength strand wire for revetment work. Paid $475 for the idea, savings of $274,000 are expected. Mr. Angelo J. Guarino, Lockmaster, and Frederick Bowers, Tug Master, were also presented awards during the ceremonies.

Reese Air Force Base, Lubbock, Texas. The placement of reinforced doublers that secure the wing tunnel doors on the B-25, and a brake control valve for the counter boring tool, won $75 and $25 respectively for R. D. Townsend and R. W. McNeese of the 3500th M & S Group. Awards were presented by Colonel James C. Watkins, USAF, M & S Group Commander.

Naval Air Station, Pensacola, Florida. Twenty-six O & R employees were recently presented Beneficial Suggestion Awards by Commander L. J. Hunt, Jr., USN. Too numerous to describe, the suggestions will collectively return a large number of dollars to the Department to further the nation's defense.

Seattle Army Terminal, Washington. Members of the "Hale and Hearty Club," welcomed 16 new members to their ranks in quite impressive ceremonies at SAT. Each new member received a certificate from Colonel John B. Grinstead, Commanding Officer. The Hale and Hearty Club consists of personnel who have accumulated at least 1,000 hours of unused sick leave. Last November, charter members of the honorary organization numbered 44.

Memphis Naval Hospital, Memphis, Tennessee. In line with the service-wide campaign to clean out files, this organization disposed of 163 cubit feet of outdated records and papers. Commander Arve Lee, USN, Administrative Officer, passed the praise on to his leading hospital corpsman.

RCA To Market Custom Spare Parts for Military Equipment

Establishment by the Radio Corporation of America of a special activity for the administration, sales, and delivery of RCA custom-built spares for military electronic equipment was announced by Theodore A. Smith, Vice President and General Manager, RCA Defense Electronic Products.

Herbert C. Elwes has been appointed to the newly created post of Manager, RCA Defense Spares Marketing. He will be responsible for all activities connected with the sales of RCA custom replenishment spare parts and assemblies to the military services, other Government users, airframe manufacturers, and other electronics manufacturers producing Government equipment and systems.

"The establishment of a centralized marketing activity for RCA custom-built spares," Mr. Smith said, "has been undertaken to consolidate sales activities which heretofore had been administered by various RCA departments.

"This new RCA Defense Spares Marketing activity will enable users and manufacturers of military electronic equipment to deal with a single RCA unit on all requirements for custom-built spares. The new organization will enable us to provide concentrated handling and more expeditious servicing of orders."

The Defense Spares Marketing activity, he explained, will operate as a pooled service for RCA's four Defense Electronic Products operating departments—Airborne Systems Department, Missile and Surface Radar Department, Surface Communications Department, and West Coast Electronics Products Department. The new marketing group will be responsible for delivering the spares portions of equipment contracts involving the various departments, for replenishing spares requirements as needed subsequent to the completion of initial equipment contracts, and for supplying spares for equipment modernization and retrofit programs.

The Defense Spares Marketing activity will work directly with military replacement depots, other Government users of electronic equipment, airframe manufacturers, and electronics companies producing Government equipment.

Hancock Enters Yard

San Francisco (AFPS)—The carrier Hancock has entered the naval shipyard here for an $8 million conversion. Plans for the modernization include an enclosed bow, angled flight deck and installation of the new mirror-signal landing system.

Personnel of all four branches of service—Army, Navy, Air Force and Marine Corps—are stationed at White Sands Proving Ground.

"Everything happens for the best!" Sounds like your Granny talking, but it isn't It is me, your old Air Force Dad! Of course, it sometimes takes up to ten years to learn that some unpleasant mess was actually fertilizer for a future bed of roses. Sometimes it doesn't even take that long.

That's a fact, son, I've seen it happen many a time—and for the good of the Air Force. Every time a square peg is placed in a round hole the unfortunate peg is sure he has been specifically picked on and discriminated against. The picked on part is right. No round pegs are available!

Everything Happens for the Best

by Lt. Colonel Bill E. Myers, USAF

Our Air Force is faced with a big job—to wit—more "Birds" in the air with less warm bodies to keep them there. Due to this stretch out, there are found to be more jobs than people. This means someone gets to wear two hats; that is, he has two jobs. Another way out is to assign someone that is believed best capable of doing the job, or who can best be spared from the job he is doing.

If you find yourself to be a square peg in a round hole it can mean one of two things; one, you are expected to have the ability to do the job better than anyone else available, or two, you are the least eessential person in your present slot—that old thing called priority has caught up with you! This is your opportunity, whichever type you are. You can show that you are versatile, or that confidence shown in you is justified.

How can a bad assignment turn out to be a good deal? Primarily, it depends on you. The square peg in a round hole is marked. The man who is thought to have the ability will be watched closely to see if he comes up to expectations; will he pick up the ball and run with it? The man who is considered to be non-essential will be watched to see if he drops the ball as expected! In either case, the square peg isn't expected to fit in a round hole as well as a round peg. Naturally, if the square peg rounds out and fits the hole more credit will be given.

Now, what is the usual reaction when someone grabs what he thinks is a raw deal for an assignment? Let's pass over the unsavory details and get down to a "for instance." Let's imagine that we have the world's hottest F-86 fighter pilot. He returns from overseas and requests to be stationed at Seattle, Washington, in an F-86 unit; however, a fighter pilot is needed in an F-84 outfit in the Pine Flats of Georgia. Our boy finds himself slightly misplaced. Now here is the real bitter bit because, as it happens, he reports in just as the supply officer walks out. The Wing D/P, a resourceful gent, looks at our young hero's record and notes two pertinent facts: one, he has two years of college; two, he listed his civilian occupation as a clerk in his father's super market. Pepto-Bismo! He is a fighter pilot with an additional duty of supply officer. Just between us, he is a supply officer who can fly fighters at night or on weekends. At this point our story can progress to either of two conclusions.

First, and normally so, our hot-rock rears his head back and howls his tale of woe to the moon and anyone else (including the club bartender) who will listen. No one really expects him to set the world on fire, and he doesn't. He spends most of his time sitting in the pilot's lounge telling the F-84 pilots how "hot" he is in an F-86 and what a dastardly deal the "Old Man" gave him. This procedure doesn't endear him to the F-84 flight leaders, who are trying to convince their boys that the F-84 is tops. It goes over like a lead balloon with the "Old Man." Meanwhile supply wanders on with no one at the controls. Anyone can tell the rest of this sad tale — an unsatisfactory inspection, a low ER stressing lack of initiative, failure to assume responsibility, a poor attitude. This boy is on his way down and out. He has not helped himself, he has not helped the Air Force, and few civilian employers would have him. He has made his bed of roses, and must lie in it!

Let's look at the second road. The individual who takes it probably doesn't like supply either. He also complains, but not to the world. No one really expects him to do a good job. He listens carefully to the "Old Man's" briefing; he studies the Supply Bible, known

as AFM 67-1; he talks to all the other supply officers and adopts their ideas to his job. Surprisingly enough there is time to check out in the F-84, and after several flights his opinion of it rises. Most important he learns that supply work can be interesting, and that supply is essential to any unit. Through this knowledge he better understands the complexity and effort required in accomplishing the squadron mission. He may or may not realize it, but his superiors do realize that he has started to mature. He is developing into a potential fighter commander, and even a better pilot. He is still not a skilled supply officer, but he has tried to learn the assigned job. His attitude is right. His associates and superiors have a high opinion of him. Willingness to assume responsibilities and devotion to duty are duly noted in his ER's. When a flight commander's position is vacated, the supply officer is honestly surprised at being appointed to fill the slot. This boy is on his way up and ahead in or out of the service. He is still a red-hot fighter pilot, but he has picked up experience that will mark him for promotion and future responsible assignments.

Let's back off and summarize the two courses. The first course obviously helped no one. The victim, so to speak, dug his own grave. The second course followed speaks for itself; everyone gained and no one was hurt. Ironically enough, a real "Honest - to - Pete" supply officer would not have received as much credit; he is supposed to do a good job in supply.

Now all of you who are still with me at this point let your old Dad tell you something! This little tale isn't 100% fiction. I've seen many good men in all grades from the bottom on up find themselves in the position to follow one of the two courses. The "boys" turn to the first course, and the "men" stabilize on the second course. Everyone knows when you are saddled with a job you personally don't like. What they don't know for sure is how you will react. Granny's advice to your old Dad still holds! "Any job worth doing, is worth doing well!"

Tighten your shoulder harness! Here is another "for instance." I once knew of two airmen, Third Class, who were excess sheet metal workers in a maintenance squadron. One Monday the First Sergeant taxied them into the "Old Man's" office twenty-four hours late from a weekend pass. It was a cold winter's eve, and the squadron was short boiler firemen. The "Old Man" was an agreeable cuss so when our two boys volunteered to fire boilers for thirty days he immediately OK'd the deal.

We will leave the middle of this story to your imagination and proceed to the end. At the end of thirty days one of the airmen was back in the sheetmetal shop recommended for promotion; the other airman was in the base stockade spending his hours on the snow shoveling detail. One held a true course. The other let something, maybe a bad crosswind, blow him off course. Tough! Yes, on the man and on Uncle Sam!!

OK, so what's all this jet-wash about? Just this, son, we have a lot of jokers in this Air Force who are spreading a wrong idea. They talk and act like the Air Force exists to cater to their whims! That is where they are wrong. The Air Force serves the American people by having loyal Americans serve it.

The United States has not yet adopted the Old British "press gang" method of getting recruits by the simple procedure of knocking them on the head. Son! You stood up on your hind legs and walked into the Air Force on your own. You wear the uniform and you spend the pay. Do you earn that pay? Normally most people earn their pay when things are going their way. It's when the going gets tough that they kick over the traces.

There are good jobs and bad jobs; there are good air bases and bad air bases. Someone must do the jobs, and each base needs people on it. During a normal tour in the service, a person will get a taste of each. Every job at every base must be done. Like the battle that was lost for the "want of a horse shoe nail." An air battle can be lost because someone didn't submit an accurate requisition or because a pilot had a cold breakfast.

Spread out men and look this gagle over. Incidentally, "Patriotism" isn't a dirty word; it's our best military weapon. Let's dust it off and apply it by doing our best in any job. The survival of our nation and the lives of you and your families depend on a good formation. Every position, the good and the bad, must be filled. Remember stragglers get picked off and endanger the others.

When you are detailed to a bad assignment you are in luck. This is your chance to serve your country. In serving it, you will find that everything happens for the best because you will serve yourself!! Enough!!

Fairchild Announces Plans For F-27 Propjet Transport

America's first twin-propjet passenger transport for short and medium range operations, the Fairchild F-27 Friendship, will be manufactured under a high-production tooling program providing for an initial rate of five aircraft each month and for quick acceleration to 10 per month.

Richard S. Boutelle, president of Fairchild Engine and Airplane Corporation, announced the production planning schedule. He also disclosed that Fairchild has exercised its option, under an agreement with Fokker Aircraft Company, for immediate delivery of all drawings and engineering data on the high-performance F-27.

Delivery of drawings and engineering data now, Mr. Boutelle said, will enable Fairchild to proceed immediately with tool design for high rates of production and to meet the timetable calling for delivery of the first pressurized, high-wing F-27 in October, 1957. The F-27 will be built by the Fairchild Aircraft Division in Hagerstown, Md.

Mr. Boutelle also revealed that Nick Bez, president of West Coast Airlines, today exercised an option to purchase four Fairchild F-27's and has taken an option on four additional aircraft until January 1, 1957. West Coast Airlines operates 14 DC-3's over 2,144 unduplicated route miles in the Pacific Northwest.

The Army Ordnance Department was established by the Act of May 14, 1812.

NEWS BRIEFS from the SERVICES

United States Marine Corps. The second Terrier SAM (surface-to-air missile) Battalion is scheduled to be activated next month. The 1st Terrier SAM Battalion moved last month from Naval Ordnance Test Station, China Lake, California, to Twenty-nine Palms, California, last month.

United States Military Assistance Advisory Group in Iran, APO 204, New York. Major General John F. R. Seitz, has been named Chief of MAAG in Iran. General Seitz who has been Chief of the New Jersey Military District since August of last year, succeeds Major General Robert A. McClure who retired on May 31.

U. S. Naval Amphibious Base, Little Creek, Norfolk, Virginia. Vice Admiral Frank G. Fahrion, USN, the Navy's senior ordnance engineer, who served as second in command in the historic "Operation Crossroads" nuclear tests and commanded the Naval task groups for that operation, retired from the post as Commander of the Atlantic Fleet Amphibious Force on May 1.

Myrtle Beach Air Force Base, Myrtle Beach, N. C. The Tactical Air Command has announced reactivation of this installation which will contain approximately 3,500 military and civilian personnel upon completion. First unit to occupy the rehabilitated base is the 4434th Air Base Squadron which is preparing Myrtle Beach for the activation by TAC of the 342d Day Fighter Wing and the 455th Day Fighter Group this summer. Both units are slated to be equipped with North American F-100 Super-Sabre's.

Bath Iron Works, Bath, Maine. Mrs. Arleigh A. Burke, wife of the Chief of Naval Operations, has been designated by the Secretary of the Navy as the sponsor of the Navy's newest destroyer, the USS MANLEY (DD-940).

The MANLEY is the third U. S. Navy ship to be named in honor of Commodore John Manley, Continental Navy officer who commanded frigates and privateers. She is the latest of the FORREST SHERMAN Class of destroyers, and is 418 feet long, with a beam of 45 feet and standard displacement of approximately 2,900 tons.

Kelly Air Force Base, Texas. Dedication ceremonies officially opening the new 11,550-foot runway at the Base, were highlighted recently when Captain Donald R. Butterfield, USAF, landed the first F-102 to land in the Southwest on the two-mile runway. Kelly Air Force Base will have worldwide maintenance and supply responsibility for the Convair F-102.

Headquarters 13th Naval District, Sand Point Naval Air Station, Seattle, Washington. The 13th Naval District Headquarters was moved last month from downtown Seattle to the Air Station just outside of the city. The contract for the move called for the entire 45 offices to be completed in seven working days. Economy and more adequate space were cited as the reason for the move.

United States Coast Guard, Washington, D. C. CinemaScope is in store for many overseas bases and ships in the Coast Guard. Nearly all new movies are in CinemaScope proportions and until units get at least new lenses they are limited to old films. Several months will be required to complete the distribution.

Patrol Squadron 19, Naval Air Station, Alameda, California. Returning to NAS Alameda recently, Patrol Squadron 19 marked completion of their fourth deployment to the Far East. On hand to greet the squadron were Rear Admiral R. F. Hickey, ComFair Alameda, Captain L. E. French, NAS Commanding Officer, the 12th Naval District Band, and dependents of officers and crew.

Fort Benning, Georgia. Final preparations are being completed to switch over to the Army Command Management System to be used throughout Third Army. Lt. Col. Carter T. Boggess, Infantry Center deputy comptroller, project officer for implementation, explains the new system as follows:

The new system will provide post-level activity and program directors, post commanders and higher-level commanders with a graphic over-all picture of operations within their organization. By utilizing a single system, rather than the four now maintained, the new program is designed to promote economy and eliminate duplications in clerical work.

The five-point program includes:

1. Scheduling workloads and forecasting resource requirements.

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2. Recording consumption or use of resources as work is executed.

3. At the completion of each period, comparing the forecast to work accomplished and resources used to realign schedules and forecasts for the coming period.

4. Provide comprehensive reports and analyses to higher authority.

5. Providing a sound basis for re-programming objectives, cost ceilings and performance when substantial expansion or retrenchment is desired.

405th Fighter Bomber Wing (TAC) Langley Field, Virginia. Lt. Col. Robert R. Scott, USAF and Republic Aviation Corporation were awarded a certificate by the Federation Aeronautique Internationale recently, in recognition of the nonstop speed record from Los Angeles to New York set by Scott in a Republic F84F Thunderstreak on March 9, 1955. Averaging 652 miles per hour over the 2,463.92-statute-mile course, the record has been recognized as official by the National Aeronautic Association and stands.

Naval Research Laboratory, Washington, D.C. Dr. Ernest Krause, formerly associate director of research for nucleonics at the Naval Research Laboratory in Washington, D.C., recently received the Navy's Distinguished Civilian Service Award for his achievements in the fields of rocket and nuclear weapons development.

Assistant Secretary of the Navy James H. Smith, Jr., presented the award at a ceremony in the Navy Department, attended by Navy officials and scientists from the Naval Research Laboratory.

McClellan Air Force Base, California. A new simplified Air Force purchase procedure being tested at McClellan AFB is cutting red tape at an unprecedented rate, and is evoking enthusiastic compliments from sales people accustomed to "normal" government purchasing procedure. Developed by Major Lester L. Stone, the new system uses a blanket contract method. Using this approach the Air Force opens "Charge Accounts", and payment is made once each month. The procedure covers purchases of less than $1,000 per individual delivery order, and which specify delivery within 90 days. Under the previous system a check was written for each delivery, no matter how small, on a contract that might call for a dozen or more deliveries.

Corps of Engineers Testing Two New Earth Augers

Two portable earth augers which are designed to dig holes to considerable depths at rapid rates are undergoing tests at the Corps of Engineers' Research and Development Laboratories, Fort Belvoir, Virginia.

Developed by the H. B. Williams Manufacturing Company of Dallas, Texas, they are being considered for use in the construction of field fortifications and emplacements, shallow wells and waste disposal pits. Other possible applications are also under study.

The larger of the units weighs approximately 50,000 pounds. Powered by a 192-horsepower gasoline engine, it is capable of digging holes up to nine feet in diameter and 75 feet deep in many types of earth strata.

Mounted on a standard military 25-ton low bed trailer, the unit is 89 feet long in its traveling position. It features a turntable which permits digging and discharging of spoil on either side of the trailer.

A five-and-a-quarter-inch square kelly bar with a two-inch hole in the center makes possible the use of air, water and Calyx drilling attachments. Augers, auger buckets for wet material, and core barrels for drilling in rock are standard attachments.

Digging operations have been successsfully conducted in sandy loam, calechie and decomposed granite. In sandy loam, the unit dug a huge hole on an average of a half-foot per minute.

The unit's "kid brother", a husky 34-foot, 24,448-pounder which utilizes smaller versions of the same components, can dig holes up to six feet in diameter and 22 feet deep. Truck-mounted, it is highly mobile.

New Desk-top Base Station Added to DuMont Radio Line

A new desk-top model base station, featuring finger-tip control without using control lines, has been added to the wide line of two-way mobile radio communications equipment of Allen B. Du Mont Laboratories, Inc., it was disclosed by Fred M. Link, director of operations, Mobile Communications Sales Department.

The new unit, known as "model MCA-155-B, desk-top console base station", is a complete base station for desk-top mounting and is designed to meet requirements of dispatchers, foremen, and the like, to provide the complete facilities of a base station with the convenience and reliability of a desk telephone. A front-panel meter checks complete performance. Using the most modern circuitry and design the MCA-115-B combines high performance and accessibility in a compact, attractive unit.

The new unit's specifications are as follows: 8½ in. high; 23½ in. wide; 18 in. deep, and weighing approximately 50 lbs. It comes in Du Mont standard gray-green baked enamel hammertone finish, with a full line of accessories. These include digital clock, dual frequency transmitter and/or receiver, and foot switch.

The frequency range of the MCA-155-B is a 25-54 mc, 40 watts minimum output. The same type base station is also available for 144-174 mc as the MCA-355-B and 450-470 mc as the MCA-455-B.

"It is complete, yet compact," declared Mr. Link in describing this latest Du Mont two-way mobile radio communications unit, "and will deliver reliable performance, economically."

The equipment complement includes pre-amplifier, built-in loudspeaker, desk-type microphone, and built-in multimeter.

"PX" Holds World-Wide Conference in New York City

The first world-wide exchange conference since World War II was held in New York City May 21 to May 25, it was related this week by Major General H. L. Peckham, Chief of the Army and Air Force Exchange Service.

Invitations were extended to Army and Air Force commanders throughout the world and all areas were represented.

Conference headquarters for the week-long convention were the Hotel Sheraton-McAlpine, Broadway and 34th Street.

SERVICE SCHOOLS

University of California, Los Angeles, California. Twenty-four officers recently completed the Flying Safety Course, bringing to a total 336 safety specialists who have graduated and taken the latest safety techniques back to field organizations. Brigadier General Joseph D. Caldara, USAF, Director of Flight Safety Research, made the graduation address.

Naval Schools Command, Newport, R. I. The 13th class of 61 officers were graduated last month from the officers short course in communications. 570 officers have completed the course since the school was moved from Monterey, California in November, 1953.

Command Management School, Fort Belvoir, Virginia. The Fourteenth Class which included three major generals and four brigadier generals, graduated recently from the Command Management School. Alumni represent all branches of the Army, Navy, Air Force, Coast Guard and Marine Corps.

Army Chemical Center, Maryland. Over 200 prominent statisticians and engineers from all over the nation met on April 26 and 27 for the Statistical Engineering Symposium, sponsored by the Army Chemical Corps' Engineering Command. This is the second of a series of annual meetings sponsored by the Command to promote better understanding and more effective relationships between engineers and statisticians in research, development and engineering.

Society for Advancement of Management, 74 Fifth Avenue, New York 11. A two-day national conference is scheduled on "Developing Profitable Management for Small Business," at the Hotel Statler in New York on June 7 and 8. Sponsored by SAM, the conference appears to be most interesting to military personnel.

Air Force Resources Management Program, George Washington University, Washington, D. C. Established over five years ago the Air Forces Resources Management Program has trained over 3600 officers and key civilians. The 31st Commander's Class which graduated April 27th, contained one hundred and two men.

Artillery and Guided Missile School, Fort Sill, Oklahoma. Seven surface-to-surface guided missile courses are scheduled for transfer to Fort Sill from Fort Bliss during the next fiscal year. Headquarters Fourth Army has announced that surface-to-surface missile instruction will cease at Fort Bliss December 17, 1956, and begin at Fort Sill February 11, 1957.

Helicopter Training Unit 1, Ellyson Field, Pensacola, Florida. The 250th cadet, 2nd Lt. George W. Hatfield, USMC, was recently graduated from "whirlybird" school. Assigned upon graduation to New River, North Carolina, Lieutenant Hatfield marked an important milestone for HTU-1.

Naval Submarine School, New London, Connecticut. July 2nd marks the day 89 line ensigns and lieutenants (junior grade), will begin six months training at the Naval Submarine School. Those successfully completing the course will be assigned to duty aboard submarines. Applications are presently being accepted and will continue to be processed until 1 September of those junior officers interested in the next training course scheduled to begin next January.

Charleston Air Force Base, South Carolina. Eight officers were graduated recently from the first officers' management seminar directed by the Wing Manpower and Organization Office. Colonel Clinton C. Wassem, USAF, Commander of the 1608th Air Transport Wing, presented certificates to the graduates. Conference leadership was under the direction of 1st Lieut. Willard L. Gannett, USAF.

Command and General Staff College, Fort Leavenworth, Kansas. Major General Lionel C. McGarr has been named commandant of the college by Army Secretary Wilber M. Brucker. General McGarr, commanding general of the U.S. Army Caribbean, will return to the United States in July to assume his new command.

Rescue Instructor Course, Civil Defense Rescue Instructor School, Olney, Maryland. Courses are now available to naval personnel whose duties are related to civil defense functions. The 10-day classes will convene monthly the rest of the year. Applications should be made to BuPer (Attn: Pers C122).

Pratt & Whitney Aircraft, East Hartford, Conn. The first forum in a 1956 series on the latest developments in operation and maintenance of Pratt & Whitney Aircraft engines was held last month in East Hartford.

Signal Corps Center, Fort Monmouth, New Jersey. Mr. Fred Smith of Fred Smith Associates, Cincinnati, Ohio, addressed the Signal Officers' Advanced class recently. His topic, "The Art of Management," fits perfectly the description of Mr. Smith's appearance, which reads, "An executive with a red-meat management message pleasantly packaged."

Wright-Patterson Air Force Base, Ohio. The first class of a new course at the Institute of Technology, graduated April 27th. The logistics education and research project was initiated in June, 1955, with an objective to further develop selected field grade officers, to effectively and economically administer the materiel programs of the Air Force. A second objective is to contribute, through research to Air Force basic doctrines, techniques and procedures in the field of logistics.

United States Marine Corps, Washington, D. C. Applications

are being requested from regular unrestricted ground officers in the ranks of lieutenant and warrant officer, for the Explosive Ordnance Disposal Course, conducted at the U. S. Naval Powder Factory at Indian Head, Maryland. Complete details are available in Marine Corps Bulletin 1520.

Quartermaster School, Fort Lee, Virginia. Colonel S. F. Silver, USA, formerly commanding officer of the Fort Worth General Depot, has assumed command of the Quartermaster School. Colonel Silver replaces Colonel C. B. Henderson who has been transferred to the Schenectady General Depot, New York.

Andersen Air Force Base, APO 334, San Francisco. A new 50-hour management course for Base supervisors began recently at Andersen AFB. Under the direction of Major Alexander Thompson, chief manpower and organization, the course is considered one of the top supervisory courses offered.

Book Reviews

by D. D. Corrigan

Two Cents a Word

"ENCYCLOPAEDIA BRITANNICA," 1956 Edition, 24 volumes.

In order to give a comprehensive review and a complete survey, this is the third article to appear on the Encylopaedia Britannica.

The contributors to the Encyclopaedia Britannica are paid what could be called a small amount, two cents a word, but the honor and prestige cannot be measured in terms of money. Scholars, authorities, experts, the top men in all fields are contributing not for reimbursement, but are furthering a source of information and knowledge. The 210 miles of words, or two cents multiplied by 38 million words does, however, add up to a considerable amount.

The Editor is Walter Yust, assisted by editorial specialists who check all facts and proof read all material. The procedure for revision and expansion are big business and require methods of management and technique that are modern and progressive. How does a business organize and utilize principles of management methods when the product must be revised every year, and the material presented must be up-to-date and absolutely correct. The program for revision is one that has developed from years of trial, error, and correction.

A three point plan of revision has been followed in recent years. 1, The annual revision of the 24 volumes; 2, Annual Book of the Year; and 3, Library Research Service. Experts in all fields of knowledge, and with the assistance of the faculty of the University of Chicago, keep abreast of articles and new developments in their specialized fields. After discussions and consultations with faculty advisors, approved recommendations are taken to Editor Yust for his final okay. The material then is prepared for the ensuing issue.

Several years ago all articles were divided into 30 classifications. Each group is scheduled for complete revision at specified times over a period of ten years, so that each article is reviewed and revised at least twice in a ten year period. This means all articles are revised individually and in current relationship to the overall general field or classification. Some information changes so rapidly that articles must be completely rewritten every year. With the advent of the Atomic Bomb, 500 articles received many changes.

Top authorities are always selected for the actual writing, often with the advice of others in the same field. Generals, admirals, scientists, professors, presidents, thirty Nobel prize winners, all have had their say in these pages.

Each owner of a set is given fifty certificates, which allows the owner the privilege of asking the Library Research Department for almost any information not found in the set itself. Some questions are frivolous, but most of the 500 questions received every week are serious and involved, demanding much research by the staff who compiles the answers.

The Book of the Year keeps owners aware of new material. Significant data of each year, issued annually, gives the owner current information.

The combination of the great minds of every generation, expert editorial staff, and good business methods, with the application of modern progressive management principles keeps the Encyclopaedia Britannica the most reliable and inclusive authority for those seeking knowledge.

Letter From Father to Son

"MEN, ROCKETS AND SPACE RATS," by Lloyd Mallan (Messner, 335 pages, $5.95).

Dear Son,

I am sending you under separate cover a book I hope you will find as exciting as I did. I know you are busy with classes and exams and such, but I do hope you will find the time to read this book. I am not suggestingg this book to you just because I know you have always been extremely interested in aviation, but because you are ilving in an air age, a time of rockets and space exploration. I feel that you should know something about this subject and be aware of it, if only from the viewpoint of information, even though you may not actually participate yourself.

Lloyd Mallan's book contains shades of superman, Buck Rogers, and science fiction. But he tops them all—for truth is more fascinating and more fantastic than fiction—to paraphrase an old saying. Mallan is a very clever young man to write of facts and records in a way both exciting and suspenseful. The Rocket Age is full of adventures, thrills and chills, danger and history making events.

The descriptions are beautiful and vivid. Get this sentence about the first rocket. "In the dark, silhouetted against the flat glare of floodlights, it looked more like a rare tropical fish, or perhaps a bloated porpoise, as its black

shadow seemed to float in sea depths of unreal light." Puts it right in front of your eyes, doesn't he.

Mallan became interested in aviation while he was still a boy and has combined writing and his love of flying. He was elected to the American Rocket Society and is a member of the British Interplanetary Society and the Aviation Writers Association. With the cooperation of the United States Air Force he flew eighteen thousand miles for a on-the-spot coverage of today's achievements. So you see he really knows what he is talking about.

The book begins with the launching of the first rocket ship in October 14, 1947, piloted by Capt. Charles E. Yeager of the U. S. Air Force, and goes behind the scenes to meet the men of the Rocket Age. The developments, the research, the doubts, the decisions, and the accomplishments made history. You might be surprised to know that a subway conductor and an adding machine repairman, working in pantries, garages, and attics, made their worthy contributions.

A complete picture is given of White Sands Proving Ground, as to locale, objective, and the men engaged in work there. I would like your opinion on the chapter "Aerobee-Hi and the Artificial Earth Satellite." Who knows, maybe you will live to see trips to the moon daily events as well as trips further away.

Keep up on your studies, son, and pass this book around to some of your friends. I will be anxious to know how you liked this exciting view of the rocket age, with a look at the men who are making it possible.

Fondly,

Dad

Uniting Staff Skills

"THE STAFF ROLE IN MANAGEMENT," by Robert C. Sampson (Harper, 226 pages, $4.00).

Mr. Sampson does not set forth high sounding theories that only look good on paper, but rather gives expert advice on day-to-day activities that can be utilized in achieving effective management through the proper co-ordination of the staff people. A wide background in private industry and government gives the author the knowledge and know-how to discuss positive objectives and actions.

A former Director of Staff Services for the Chesapeake & Ohio Railway Company, Mr. Sampson is now with the A. T. Kearney & Company, management consultants. Mr. Sampson did extensive research, not for the primary purpose of writing this book, but in order to create a systematic viewpoint about staff work and to solve problems concerning staff work, relationships between line and staff men, and to develop new techniques. The book came as a result of his experiences in actually working out staff roles, and the investigation and research provided Mr. Sampson with the necessary qualifications for writing this book.

Mr. Sampson feels that a dilemma exists today because of overemphasis on techniques. Human factors are involved in all work situations and in men's reactions to any phase of work situations. Rigid formulas cannot be applied or accepted, and a new appraisal needs to be made of the staff work in connection with methods, relationships, and tasks. A staff man is a collaborator and a counselor. His objectives should be management development and organization planning.

Earning or gaining acceptance means starting slowly, getting well established, and recognizing resistance and rapport. Excellent advice is given in the chapters "Counseling With an Executive" and "Group Counseling" as problem solving procedures. These two chapters do not suggest that counseling is the perfect solution, but that counseling does form a basis for progress.

In looking to the future, Mr. Sampson says the staff specialist has two choices. He can continue in the same way as before, or he can reorganize for a creative staff role. Humanistic staff work and an integrated staff means working for unity in modern management.

The Root of All Evil

"PRINCIPLES OF PERSONAL FINANCE," by Colonel Robert E. McDermott, NSAF (Military Service Publishing Company, 178 pages, $1.50).

This book was written with the assistance of the Department of Social Sciences, United States Military Academy, West Point, and is intended for members of the Armed Forces who need help in solving problems in the management of their personal finances. The following items receive considerable attention:

1. Pay and allowances.
2. Retirement, disability, death.
3. Bonuses and tuition.
4. Travel allowances.
5. Classes of allotments.
6. Federal, state income taxes.
7. How to lend, borrow, or buy on credit.
8. What, when, where, why and how to buy.
9. How to use a bank account.
10. How to rent or buy a house.
11. Savings and investments.
12. Family budgets.
13. Insurance, wills, power of attorney.

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But automatically checks with TIME, LINE and COLOR control

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- Schedules and time checks operations.
- Historical record to back it up.
- Bad situations show automatically.
- Its simplicity has put it into world-wide use.
- Analyze 100 items in 10 seconds.

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Recommended Reading

"COMMUNICATION WITHIN INDUSTRY," by Raymond W. Peters (Harper, $3.00).

The head of the Employee Relations Research of Esso Standard Oil Company gives a variety of tested procedures for executives to develop in a program of inner communication, and establishing closer communication methods at different levels of management.

"HUMAN FACTORS IN MANAGEMENT," edited by Schuyler Dean Hoslett (Harper, $4.00).

This new edition has been greatly enlarged because of the constant growing interest in this field. Leaders in all phases of human problems present the most significant findings of recent years.

"MILITARY POLICY AND NATIONAL SECURITY," by William W. Kaufmann, Gordon A. Craig, Roger Hilsman, and Klaus Knorr (Princeton University Press, 274 pages, $5.00).

Four professors of Princeton University examine their findings on military policy and national security.

"AFFAIRS OF STATE: THE EISENHOWER YEARS," by Richard H. Rovere (Farrar, Straus and Cudahy).

An informal study of the President, the men surrounding him and the role each has taken in national and world affairs for the past four years. A penetrating analysis is given of the events that will have a serious bearing on the November elections.

"THE PSYCHOLOGY OF INDUSTRIAL CONFLICT," by Ross Stagner (John Wiley, 550 pages, $8.00).

Unions, frustration, aggression, industrial conflict and peace, strikes, specific labor tactics—all are examined by Dr. Stagner by applying modern psychological knowledge to industrial controversies.

"AUTOMATIC CONTROL',, a Scientific American Book, (Simon and Schuster, $1.00).

A collection of articles dealing with a complete survey of those machines that are equipped with nervous systems and made to regulate themselves.

Man-Made Earth Satellites To Guide Ships and Planes Predicted by Chrysler Corporation Missile Engineer

Man-made ASTRO satellites circling the earth every 105 minutes to serve as all-weather "Space-compasses" for ships and planes were forecast by a nationally-known missile authority.

This prediction was made by Lovell Lawrence, Jr., assistant chief engineer-product design, Chrysler Corporation Missile Operations, Detroit, before a Franklin Institute symposium on "Earth Satellites As Research Vehicles." A former president of the American Rocket Society, Lawrence is a key figure in Chrysler Corporation's guided missile projects.

"The ASTRO (Artificial Satellite Time and Radio Orbit)," Lawrence said, "could be fired into outer space from Alaska on a course which would take it over the North Pole. A strong radio beam could be transmitted upward from the Pole to cut the ASTRO's power as soon as it comes over, letting it fall into its orbit 600 miles from the earth. Once in the orbit, it would travel at a speed of 276 miles per minute."

As Lawrence explains the system, there would be three ASTRO's fired into outer space eight hours apart to provide a radio signal that could be plotted from any point of the earth in any weather every 105 minutes.

The Chrysler missile expert said an almanac listing the ASTRO space course, just as a farmer's almanac lists the position of the sun, for every minute of the day could be established by plotting the course of the ASTROs in their first revolution around the earth.

This ASTRO Almanac would be the key to the navigation system. By fixing the exact minute when the ASTRO signal is the strongest, the ship or airplane navigator could obtain the position of the ASTRO at that particular minute from the Almanac. He would then determine his position by computing the observed Doppler frequency deviation shift versus position distance from the ASTRO.

Power source for the ASTRO would be one pound of Strontium 90 combined with an Yterrium isotope which, Lawrence said, would provide enough power for 20 years after which a new ASTRO would be fired into the orbit. The powerless or worn-out ASTROs would remain suspended in the orbit, in effect, becoming "celestial trash."

Lawrence described the ASTRO as a sphere about two feet in diameter with eight equally spaced antennae – shaped like croquet wickets and about eight inches long—to transmit the signal.

"By use of the eight antennae we would not have to use any gyros to stabilize the position of the ASTRO. No matter how it spun, a signal would be transmitted to the earth's surface which could be picked up by the navigator.

"For the purpose of this discussion, I have made every effort to conceive a simple, yet reliable system that may be feasible in the near future. To accomplish this, however, a very high degree of accuracy must be maintained in the electronic components," Lawrence said.

Lockheed to Modify B-47 Electronics

Lockheed Aircraft's Marietta, Ga., Division has received a new multi-million dollar contract for electronic modification work on a large number of B-47 aircraft, according to information authorized for release by Headquarters, Air Materiel Command, Dayton, Ohio.

The first airplane to be modified arrived at the plant in late April and work is already underway. The new program is in addition to major B-47 modification projects presently in work at the Georgia plant.

Operational aircraft will be ferried to Marietta from Strategic Air Command bases for the required modifications. Lockheed officials said the new modification job is scheduled at "an extremely fast rate" so that the operational B-47s can rejoin their wings in the minimum of out-of-service time.

The program covers a period of 13 months, extending through May, 1957. At the peak of the schedule, some 15 airplanes will be in work at one time.

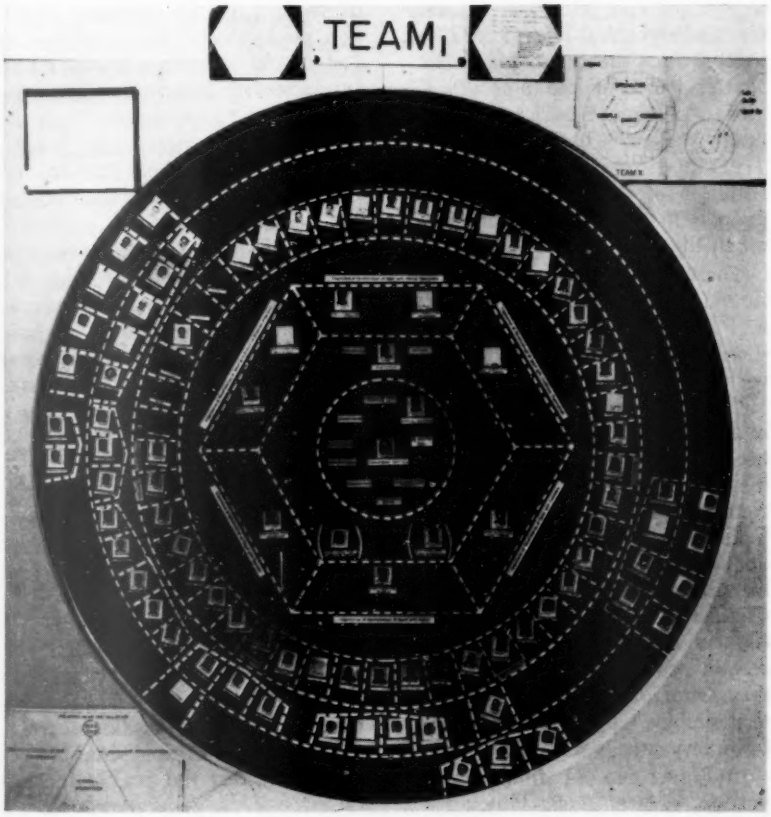
Conclusion of a series of six installments

ORGANIZATION—From Empiricism to Principle

By Colonel Leland B. Kuhre

A closer view of a Team is shown in Figure No. 18.

Note the absence of separate "blocks" that promote separateness. There are no solid lines within the Team—all are broken to indicate that the position is the starting location (as in basketball, football or baseball) but as the play develops the individual moves anywhere in the Team according to the problem or situation. Note also that the Specialists$_1$ (in first ring) are not compartmented or placed "under" any Assistant Chief of Staff (Assistant Executive) (Vice President). Note that being "high" or "low" on the chart has no bearing on relative "importance". Note that all three of the rings of specialists can (and do) "orbit" independently around the nucleus in the center as the proper combination of Team members is found to bear on a particular situation or problem in the Team.



Let us assume (as is actually the case in designing a new organization) that the structure we have just looked at is an idea structure only—there are no people in the organization as yet. The next step is Construction; and major element in this step is the embodiment of the ideas in people to energize them. Let us recall here that each idea (position) was designed as appropriate to a mind available in today's technology and ontology. Consequently, a person with the right qualifications should be available for each position.

Let us visualize the arrival of a person to fill a position in the organization.

TEAM$_1$
GRANITE CITY ENGINEER DEPOT
July 1955
Figure No. 18

←

"Organization" photos by Charles C. Chapman

It makes no difference whether he is to make a physical contribution in a $Team_n$ or a mental contribution in a $Team_x$.

He is shown the entire structure and it is explained in general terms. From the view of the relativity of the whole, he ultimately has his attention directed to his own Team. He sees its purpose and what it does. He is then shown his position in the Team, what he is responsible for and how he contributes to his Team. Here is "dignity of man", and here is "recognition of the individual"—for all 2,000. The individual then joins his team where he is further "dignified" and "recognized" in more local detail and is introduced to his team-mates. He now has group identification in a group as one entity with a common purpose. He is already motivated with the idea of contributing to the success of his Team, and he can see how his contribution flows within his Team, from his Team to other Teams, and ultimately into a production leaving the whole organization destined for the recipient.

The new arrival's position is *given* to him and its *idea* governs him—not the day to day variable wishes of a superior personality. The idea is *his* to energize and develop; it is basic and continuing; he has a proprietary interest in it; and he knows that to him will come the credit today, tomorrow and next year. He is motivated to think—on the job and off the job; and he conceives or picks up ideas related to his job from any and all sources wherever he may encounter them. Here is the man for whom the job can be the "center of life".[24]

Within the great elasticity of generated idea relativity, the development of human relations is off to a good start. Cautious feelers about other people's status, the fear of making wrong assumptions, the delicate probing to find the hidden pattern of family group relationships and the informal leader (as opposed to the nominal leader), the months of relative silence until he sees signs of having a status—all of these things are unnecessary. All members of the Team, new and old, can develop personal relationships with the same assurance of relative position as can a center, end, or quarterback of a football team.

The new arrival immediately sees that there is no delegation of a top *pater's* authority in a tangle of invisible threads throughout the organization. Each leader of each Team from top to bottom of the entire structure has his own authority (not delegated, but *given*) that goes with the position—not person; and each leader of each Team finds that the giving of authority *within the Team* is already automatically and impersonally accomplished in the design process that created the idea structure of the Team.

We said at the beginning that Design was the key, and from the Design, the proper Construction, Operation and Maintenance would follow.

The Construction process is, in its essence, one of placing people in the structure to embody an idea (pneuma) and to energize it. A helpful analogy is the basket-ball team: James Naismith designed the basket-ball team in 1891 as an idea structure without precedent; he had five ideas (positions) in his design—right and left forwards, center, and right and left backs. Now, to construct the team, James Naismith selected people to *occupy* the *ideas* (positions) and to *energize* (play) them. The design of the Team in *Atorgenics* and the construction of the Team by placing people in designed positions is much the same process in analogy.

The Operation of the structure is fundamentally a matter of following the formulary. Perhaps we should remind ourselves here that we are not dealing with the thinking process going on in peoples' minds; we are using the end-product of thinking—what comes out of the mind of a person either as his contribution to his Team for a Team end-product, or as his production of information, advice or technique to flow in Counterpart Channels. If we will refer back to Figures No. 11 and 15 and make certain substitutions to convert them from *idea* to *occupied position* terminology we will have the key formulary for Operation.

In Figure No. 11, in the "who" portion, delete "Basic Policy Idea in the $Atomos_x$" and substitute "$Leader_x$"; delete "Complementary Policy Idea in the $Atomos_x$" and substitute "Executive"; and delete "Specialty Idea in the $Atomos_x$" and substitute ". . . . . Officer" (in the blank goes the name of the specialty such as personnel, safety, management, budget . . .). Where "Atomos" or "Atomoi" appear substitute "Team" or "Teams", retaining the subscript identification. Where "Mechos" or "Mechoi" appear, substitute "Organon" or "Organons", retaining the subscript identification.

In Figure No. 15, in the top formula in the "who" portion, delete "$Pneuma_n$—(A+B+C)" and substitute "$Leader_n$". In the bottom formula, in the "who" portion, delete "Function A (or B or C or . . .)" and substitute "Assistant $Leader_n$ for A (or B or C or . . .)" In both formulas delete "Mechos" where it appears and substitute "Organon" retaining the subscript identification.

Now, when we take the formulas in Figures No. 11 and 15 as altered by the substitution, and when we visualize the successive execution of the formulas by teams (both down and up the structure equally), we can "see" the operation of the whole structure in its broad fundamental essentials. For the more detailed Operation, it is appropriate to mention one phase—programming—because it is so simple, automatic and rewarding in the designed structure.

The formula for a program is that Pneuma plus Objective plus Time equals Program. The Pneuma is basic and continuing without quantity or time period. To insert Objective (Goal) in the Pneuma gives it a definite target; and then to insert Time gives a target to be reached in a certain period of time. The determination of the steps enroute to the target is "programming" and the result is the program. At the same time, the estimate of resources required is "budget".

Since the Pneumina are all worked out by the Design, and since they have a genetic relativity from top to bottom of the structure, the mechanics of programming require only that the goal at the top be successively generated down the

[24] E. A. Ohmann, op. cit., p. 36

structure through each Team to reach the $Teams_n$. Each $Team_n$ determines how it will attain its objective, estimate the resources required, and then the whole moves back up the structure from Team to Team by successive summarization until it reaches $Team_1$ where the summarization becomes the program for the whole organization.

In $Team_1$ the program and estimated resource requirements are balanced and the whole sent back down the structure. Ultimately each $Team_n$ gets its program and resources (budget). The $Team_n$ proceeds to execute its program, and reports program progress for successive summarization up the structure periodically. Ultimately, $Team_1$ has the total progress of the total organization for a given period of time. Concurrently each $Team_n$ reports daily performance of the individuals in the $Team_n$ and for the whole $Team_n$. This may be in terms of actual man-hours compared to standard (or estimated) man-hours in the program. Thus a percent measurement of performance is established; and this is successively summarized up the structure until $Team_1$ knows the percentage measurement of performance for the entire organization. Thus there is a feeling in the individual of making progress, and there is individual recognition of his performance. He will find ways (sometimes with help) of improving his methods for better performance much better than would be accomplished by stop-watch people descending from "above" to impose methods upon him.

Let us reflect here for a moment on the powerful psychological effect on the $Team_n$ when it makes its own program. As Mr. William L. Jenkins found in the "Granite City Test": "Before, when we made out the program at the top and sent it down, the crews and gangs at the end-of-the-line would think of 19 reasons why they couldn't do it. Now when they make out their own program, they will 'bust a gut' to accomplish it." Little need be added to this, except that the $Team_n$ will usually set out to accomplish more with less resources when it establishes its own program than would have been the case when it comes down from above.

The Maintenance of the structure is in two parts; the Maintenance of each Team and the Maintenance of the Counterpart Systems.

The best maintenance of the Team is, of course, to operate it according to design, but supplementary to that is the periodic (generally weekly) "skull practise" (to use a foot-ball analogy) where the roles of the players are reviewed in terms of specific or typical "plays" (situations).

The maintenance of the Counterpart Systems is much the same in principle as for the Team in its concept and purpose, but it is different in the mechanics: $Leader_x$ (of a $Team_x$) meets with $Leaders_{x+1}$) of $Teams_{x+1}$) at regular intervals (generally weekly); the Executive of a $Team_x$ has regular meetings with Executives of $Teams_{x+1}$ (generally monthly); and the $Specialist_1$ of a $Team_x$ meets regularly with the $Specialists_1$ of $Teams_{x+1}$ (also monthly). In this description, "x" has all the values from "1" to "n-1". It is in these counterpart channels that the major idea flow of the organization occurs—up and down—and it is important that the channels be kept exercised and open.

One specific act of Maintenance deserves singling out for special mention here; it is the "communication up" at regular intervals (generally monthly). This "communication up" starts from each $Team_n$ simultaneously and moves up the structure from Team to Team with each Team adding its own ideas until the whole reaches $Team_1$. The regular "communication up" is on a blank form having to do with management improvements and cost reduction measures instituted during the month, but it is also used prior to policy changes. For example, prior to arriving at a change in a personnel policy, a "communication up" is used to get the ideas of every individual (by Teams) in the entire organization starting from the bottom ($Teams_n$).

It is about time to say: "Even if we grant the logic of *Atorgenics*, how do we know it will work in practise?"

In the first place, the whole of *Atorgenics* was developed step by step in actual operating organizations, and each step had to be taught, accepted, learned and applied by the people in the organization. It is indeed rare that an organizational theorist has, concurrently, command control over a wide variety and type of actual organizations for a period of twenty years for use as "laboratories". In these circumstances the forging of theory is done under the heavy pressure of the demand for acceptable results from the organization. In other words, the theory *must* work in practise or else the theorist loses his job as the head of the organization!

Secondly, as we saw in the first installment (January 1956) there have been many tests of hypothesis in operating organizations over the ten year period while en route to finding the key concept of 1945. During the period 1945-55 there were "laboratory" tests of the concept in practise in a wide variety of operating organizations. All of the tests proved the theory, however, an evaluation of these tests prior to 1953 would be an expression of my personal judgment; "before and

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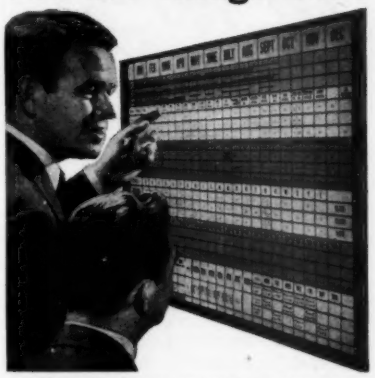

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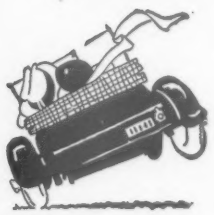

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after" statistics were not available during this period.

Lastly, during the "Granite City Test" of 1953-55 statistical indexes of organizational health were maintained as "before and after" indicators of the effect of teaching *Atorgenics* to the organization and of applying it. The base year is the calendar year 1952; and during this year (and preceding years) the Depot had the general reputation of being one of the better (if not the best) depots in the system. The installation of *Atorgenics* started in January 1953, and progress was step by step from that time on. The program was only about two-thirds complete at the end of the calendar year 1954. The following statistics are for civilians only, about 2,000. It may aid in evaluation to know that the annual budget for cash expenditures for operating costs was about $18,000,000, not including troops.

INDEX OF ORGANIZATIONAL HEALTH	Relatives (Base year 1952=100) 1952	1953	1954
(Average Monthly Employment)	(100)	(92.4)	(84.1)
Voluntary turnover (total)	100	50.1	28.2
Grievances, total number	100	71.5	14.3
Written reprimands, total number	100	70.8	39.3
Suspensions, total number	100	100.0	84.2
Removals, total number	100	26.2	30.2
Accidents, all types, total number	100	84.4	61.7
Property damage accidents, total No.	100	87.6	25.0
Partial permanent disability cases total number	100	75.0	50.0
Fatality cases, total number	100	00.0	00.0
Suggestions submitted, total number	100	145.2	198.5
Suggestions adopted, total number	100	138.5	367.5
Absenteeism, total number of cases of three days or less	100	90.7	62.7
Visits to dispensary for treatment total number of cases	100	98.0	67.5
Red Cross voluntary donations, total dollars	100	139.2	112.1
Community Chest, voluntary donations, total dollars	100	150.5	152.0
Voluntary turnover in per cent of total strength	100	54.4	42.6
Inventory Adjustments, per cent of total line items counted	100	56.4	19.7
Accident Frequency, number of accidents per million man hours work	100	139.5	131.2
Accident Severity, days lost per million manhours work	100	10.6	7.8
Motor vehicle accidents, number of accidents per hundred thousand miles	100	61.0	48.7
Payroll savings participation, U.S. Treasury Bonds, per cent of total strength participating	100	115.9	124.0
Communication Test, per cent of total people who received and understood an idea started from the top, based on random sample at the end-of-the-line	—	87.0*	97.0*

*absolute percentages—not comparative as data not available for 1952.

The arithmetic means of the twenty-one relative indexes (converted so that all improvements are represented by an increase in per cent) are:

1952	100	Empirical structure based on "family concept" in terms of man as the basic unit.
1953	137.7	Atorgenics ⅓ installed based on relativity of ideas with the Atomos as the basic unit.
1954	166.3	Atorgenics ⅔ installed based on relativity of ideas with the Atomos as the basic unit.

Thus, in this one test, the statistics take a trend towards confirming the prediction made at the beginning of this exposition, where (in Figure No. 1) we said that by application of principle we could more than double the effectiveness obtained in the school of empiricism. It is interesting to note that the arithmetic mean of the indexes are in direct proportion to the rate of installation of Atorgenics: one-third installed, 37.7 percent improvement; two-thirds installed, 66.3 percent improvement.

The internal accounting system of the organization did not provide statistics on individual productivity until near the end of the period (spring of 1955), and consequently comparative measurement of individual productivity is not available.

An indication of the effect of Atorgenics on costs may be gained from comparative manhour data pertaining to the major operation within the organization. In a statement of April, 1955, there is a listing of comparative percentages by quarters for the 13 different activities of the operation. In this statement there is an array of 40 items of comparative percentage of the first three quarters of fiscal year 1955 with fiscal year 1954. In the array, there are 34 items of decrease in cost (above zero) and 6 items of increase in cost (below zero in the array). A statistical interpretation of the array is shown below:

Median (middle item of the array)	35.5% decrease in cost
Semi-interquartile range	15.4% decrease in cost
Arithmetic mean of the 34 items showing decrease in cost	41.3% decrease in cost
Range of the 34 items of decrease in cost	From 3.6% to 73.1% in fairly uniform intervals
Range of the 6 items of increase in cost	From 5.3% to 78.8% in fairly uniform intervals, then a jump to one 459.6% figure
Arithmetic mean of 6 increase items	Not meaningful because of the 459.6% of doubtful value.

This data makes no allowance for a 14% increase in pay during the period of comparison.

In addition to the above statistical data, there is the report of a three man team from Washington: The team spent one week in the whole organization during April 1955 to examine the effect on costs of the designed organization. It was found that "despite pay increase of 14% the unit cost (which includes all overhead) had substantially decreased".

In February of 1955, a nine man official "Command Inspection" Team (composition from general officer to colonels and comparable civilians) from Washington spent one full week in the organization. Some of them frankly told me afterward that they were prejudiced (some skeptical) before arrival because of advance rumors about "different" things going on. At the end of the week long on-the-ground examination throughout the entire 2,500 man organization (civilians and soldiers) this was the Team's announced conclusion bearing on the subject: (condensed to pertinent elements)

"The systematic organization* was evident from the beginning—the physical appearance of the depot, out in the yards and in the warehouses and in the offices—the smoothness of the operation – the confidence which people showed as we went around among them. There was quiet, calm efficiency evident everywhere. ***We felt it was evident everywhere that there had been great success achieved in the field of human relations; (In addition to statistics) it showed itself in the numerous contacts we had with individuals of the organization. *** We recognize that it has been a conscious drive *** to place the individual where he feels that he is a very important element of the organization and that the organization depends on his individual activities. (We think this has**

been) **accomplished very, very successfully and that also is a tribute to your attention to systematic organization.*****"

In April of 1955 an official "management audit" of the depot was made by a five man team of management specialists from different approprite offices in Washington. The team spent one week in the organization for the specific purpose of examining the theory and practice of Atorgenics. Certain members of the team were thoroughly familiar with the organization "before Atorgenics". The following are pertinent extracts from the three page report of the Team: (condensed without loss of meaning or intent)

"**The group was unable to find any area in which the generally accepted principles of organization had not been applied completely and thoroughly. *** The method of teaching the application of organizational principles *** is believed to be entirely new and the only known systematic way of providing specific instruction on the subject of 'How to Organize'. *** Another important and related development has been in the field of 'how to make an organization run'. *** A third element in the program * is the * broad field of human relations. *** (The actions taken) have produced substantial results that were evident everywhere the group visited.**"

In the day to day operation we found that changes in the situation —external to the depot – were causing corresponding internal revisions of the organizational structure in the affected areas. Two rather major changes were necessary in the spring of 1955—they required completely new structures starting from scratch. In these cases the Organizational Structures Officer of $Team_1$ (Mr. Olin C. Dozier, Jr.,) could assist the responsible people in applying Atorgenics so as to work out the step by step design of new structures smoothly, speedily, and thoroughly. Most important was the effect on the people whose old organization was being terminated: They could see the new structure grow in design; they could see the positions being developed; they could see their place in the new structure; and they could accept it with enthusiasm for the new job ahead because it was an impersonal determination governed by the law of the situation and not by the personal ideas of a superior—working from unrevealed motivations.

One example of the application of Atorgenics to a problem of "how to organize" for the annual Depot Picnic has already been mentioned. Another interesting application to social organization occurred when a member of the Depot designed the organizational structure for the St. Louis Chapter of the Society for the Advancement of Management.

We have completed our journey down the sematic ladder of Atorgenics—through the principles (1) to (13) until we found that the abstractions were tangible enough to be used for direct application to the Design. We have shown the statistics and expert testimony as evidence of the effects of the installation of Atorgenics in a going organization (it is much quicker in a new organization just being constructed). Thus we have closed the circuit in results. However, it will aid the understanding of the principles if we trace back through them:

We applied pneumagenesis in such a way as to maximize Appropriateness

$$\text{App} \propto \text{Pg} \qquad (12)$$

We worked out the Design of the structure in such a way as to maximize Affinity; and we saw how the companion ideas of Construction, Operation and Maintenance would also maximize Affinity:

$$\text{Aff} \propto \begin{cases} \text{Design} \\ \text{Construction} \\ \text{Operation} \\ \text{Maintenance} \end{cases} \qquad (11)$$

And we saw the indications of how the dignity of man, the recognition of the individual, the motivation of each mind, and the release of the power in each individual were all built in the structure so as to maximize Attitude

$$\text{Att} \propto \begin{cases} \text{Dignify each man} \\ \text{Recognize each individual} \\ \text{Motivate each mind} \\ \text{Release the power} \end{cases} \qquad (13)$$

Thus it follows that Idea Creation Capacity is maximized because

$$\text{ICC} \propto \text{App} \qquad (7)$$

and Idea Potential Difference is maximized because

$$\text{IPD} \propto \text{Att} \qquad (8)$$

and Resistance is minimized because

$$R \propto \frac{1}{\text{Aff}} \qquad (9)$$

Now let us continue the tracing of the principles in reverse by putting principles (1) through (6) together in one continuous statement for convenience:

$$\text{Prod} \propto \text{Org. Power} \propto \text{IF} \propto \frac{\text{ICC} \times \text{IPD}}{R}$$

(1) through (6)

Applying (7) (8) and (9) to the above we see that Idea Flow is maximized, thus maximizing Organizational Power, and thus maximizing Production.

But, you have observed, we have shown nothing in the Granite City Test to indicate an increase in Production. However, you did see a decrease in costs, and that is the same thing: The same forces that operate to increase Production for the same Cost will decrease Cost for the same Production. It depends upon the situation—sometimes Pro-

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duction must remain at the same level and the variable is Cost; other times the Cost remains at the same level and the variable is Production.

We did not introduce Cost at the beginning and tie it in to the same principles as for Production because it would have interfered with clarity then. Let us do that now:

It can be shown that:

$$\text{Cost} \propto \frac{1}{\text{Efficiency}} \quad (15)$$

$$\text{but Efficiency} \propto \text{Appropriateness} \quad (16)$$

$$\text{and Efficiency} \propto \frac{1}{\text{Friction}} \quad (17)$$

$$\text{but Friction} \propto \frac{1}{\text{Attitude}} \quad (18)$$

$$\text{and Friction} \propto \text{Resistance} \quad (19)$$

$$\text{but from (9) Resistance} \propto \frac{1}{\text{Affinity}} \quad (9)$$

substituting (9) in (19) and combining with (18) we have

$$\text{Friction} \propto \frac{1}{\text{Att} \times \text{Aff}} \quad (20)$$

substituting (20) in (17) and combining with (16) we have

$$\text{Efficiency} \propto \text{App} \times \text{Att} \times \text{Aff} \quad (21)$$

substituting in (15) we have

$$\text{Cost} \propto \frac{1}{\text{App} \times \text{Att} \times \text{Aff}} \quad (22)$$

in comparison with the development of (1), (2), (6) to (10) where

$$\text{Prod} \propto \text{IF} \propto \frac{\text{ICC} \times \text{IPD}}{\text{R}}$$

$$\propto \text{App} \times \text{Att} \times \text{Aff}$$

Thus, maximizing Appropriateness, Attitude and Affinity increases production or reduces costs—according to the situation. The situation in the Granite City Test was not for increased production, and therefore the same forces worked to reduce costs instead, as the statistics show.

At the beginning of this article we introduced the term "Atorgenics" as being the name applied to this whole system of philosophy, and we promised to look into the derivation of the term. In the spring of 1955, (after ten years) it became clear that the whole philosophy had in it three key elements: The first was the concept of the *Atomos*. The second was the concept that the whole structure made up of an Atomos_x, Atomoi $(x+1)$, Atomoi $(x+2)$ . . . Atomoi_n—this whole structure was complete and self contained; and this was true regardless of the numerical value given to "x". The *idea* structure headed by an Atomos_x is known as a Mechos_x, but another term was needed to describe the same structure when the ideas were embodied in and energized by people. As we have seen, "organism" does not convey the right idea; the "organization" (being parallel to "organism" in usage and definition) was not acceptable either. It was necessary to go back in the development of language to find a pure word that would convey the idea of the embodied Mechos. The word was found in the Greek *organon* (an instrument or medium by which an important act is performed or end accomplished).

The third key element was the concept of *genesis* (process or mode of originating, esp. by growth or evolution, as, the *genesis* of the mind or of ideas). This concept is in "pneumagenesis" as a process of generating ideas from one source idea.

The three key concepts together —Atomos, Organon, Genesis—combine to form "Atorgenics" as one word that contains the three key elements of the whole system of philosophy.

Let us check back on another observation made earlier – that the "Granite City Test" was a sequel to the "Hawthorne Experiment"; the "Hawthorne Experiment" showed that production varied as attitude; Stuart Chase pointed out that a "mysterious X" had introduced itself into the organization; and he observed that an organization has a dual role—to accomplish its purpose and, concurrently, to create and distribute human satisfactions. (Note again that the *organization* has the role, not paternalism). But the "Hawthorne Experiment" was limited to showing *what* should be present in an organization; it did not develop *how* to put it there. In testing Atorgenics for its application to any organization for any purpose, it does appear that the "Granite City Test" (of 1953-55) was a sequel to the "Hawthorne Experiment".

But there is still one more approach to the examination of Atorgenics, and that is to see how it measures up against the accumulated expressions of need that have appeared in the literature of organization as a result of much observation, study, thinking and writing on the subject by people who could see the need for some solution becoming more and more acute.

During the past decade, the leading thinkers of the world in the field of organization and administration have been drawing up certain specifications for a science they believe has yet to be formulated. Luther Gulick was particularly lucid and penetrating in his survey of the future and its requirements in his address to the American Society for Public Administration in the spring of 1955.[25] Let us extract some of the specifications for a science from his address and see how Atorgenics measures up against them:

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[25] Public Administration Review, Spring 1955, pp. 73-76

Truck Owners Prefer Flashy Vehicles

Judging from a recent GMC Truck & Coach Division color preference survey, GMC truck owners seem to prefer even flashier vehicles than passenger-car buyers.

The study showed that most GMC truck customers want trucks painted delta green, flame red or two-tone aqua blue and dover white, in that order.

In contrast to these sparkling truck colors a leading paint manufacturer reported recently that the top colors for automobiles sprayed with its paint are white-ivory, black and medium green.

Once a common truck color, black hardly rates a mention in the GMC Truck and Coach Division survey. Only 2.1 per cent of GMC buyers asked for black trucks and it ranked way down in 12th place in color preferences.

Bendix Expands Scintilla Plant

A $2,000,000 expansion program of the Scintilla division of Bendix Aviation Corporation will be completed by the end of this year, it was announced by George E. Steiner, divisional general manager.

Steiner said the new facilities now under construction cover 25,000 square feet and will be devoted to manufacturing as well as research on many types of electrical equipment, including ignition systems, magnetos, diesel fuel injection systems, and electrical connectors used in major industrial fields.

The Air Force Academy will graduate its first class in 1959.

LUTHER GULIK

"It is therefore highly probable that public administration and private administration are part of a single broad science of administration, which cannot be formulated except as we include in our analysis the problems of organized human action whether they be in government, in private business, or in any other purposeful voluntary social organization."

"We discover the importance of incentives, informal organization, group dynamics, individual fulfillment in teamwork, and then we do nothing about it. We treat these fundamental insights as though they were a secondary realm of administrative consideration, rather than a necessary integral part of any sound theory of administration."

"The atomic scientists have been devoting their energies to releasing the hidden energy in physical nature. We have the same task: to release the hidden energy in human nature. This happens to be a much more important quest."

"In their study of the atom Bohr, Pauli, and others developed the hypothesis known as the ***exclusion principle***, according to which no two electrons in an atom can simultaneously have the same spin and occupy the same orbit. It follows from this, the chemist and physicist tell us, that in any molecule, however complex, there seems to be an 'awareness' by each electron of what all the others are doing in the same structure and a strict adherence to the rule that no two play the same role. In view of this intricate pattern of awareness in the structure of matter, is there any wonder that we find in human groups a complex pattern of awareness, the exclusion of which from our thinking gives us a theory of administration which is inadequate."

"Many years ago, the late Jan Smuts said to me, 'The use and control of the expert is the greatest problem of our generation.' This is still true, or shall we say even more true today because we have with each decade more and more specialties and experts, who know more and more about less and less,

ATORGENICS

We have seen that Atorgenics is conceived in terms of the essential fundamentals common to any organization for any purpose.

In Atorgenics all of these "fundamental insights" are built in so that the resultant organization has, as an integral part of it, the dual role of accomplishing its purpose and creating and distributing human satisfactions.

This whole thought has been for years a central theme of Atorgenics. To tap ***every individual*** in such a way as to "release the hidden energy" is the major purpose (and result) of pneumagenesis in the design process.

Let us recall the design of the Atomos in Atorgenics: Think of the specialties orbiting about the nucleus in each Atomos as electrons. By the design, no two electrons can "have the same spin and occupy the same orbit." And since each Atomos is an original design for its particular Pneuma as the nucleus, there is an "awareness by each electron of what all the others are doing in the same structure". By the design there is built in "a strict adherence that no two play the same role".

The Atomos, as an indivisible entity composed of many minds, brings the appropriate specialties together in a designed relativity to the generalists. Thus the production of the Atomos as an entity can and does express the "totality of any situation".

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and therefore less and less about the totality of any situation."

"I submit that public administration and political science must give more attention to this problem over the next years than it has in the past. It is not enough to say that we will build up the operating hierarchy with experts on the firing line, and with generalists in the central office coordinating and directing the enterprise on the basis of 'policy decisions'.** In the process of policy formulation and decision we cannot dispense with the expert so neatly. Nor have we exhausted the problem when we dispose of line and staff functions. We need to develop a new doctrine and practice for the fullest possible use of the expert in an appropriate framework of political and professional responsibility."**

A review of the portion of Atorgenics presented in preceding limited exposition shows us that Atorgenics provides the Atomos as the appropriate framework" for the "fullest possible use of the expert."

It is not for this exposition to say that Atorgenics is the "single broad science" for which Mr. Gulick has drawn up the above specifications. Only time and testing by others will tell whether or not Atorgenics is on the right track toward the goal we know must be reached somehow, sometime (and soon!—for the age we live in!). Atorgenics does appear to be at least a step in the right direction; and it may point the way so that others can use it as a springboard to take longer steps in the future.

Thus we hope we have accomplished what we promised at the beginning of this exposition – to break through the ceiling of empiricism and find principle. If we could make this break-through, we said that the probable frequency distribution of all organizations today could move from the left of Figure No. 1 with a mean effectiveness of 30 per cent to the right with a mean effectiveness of, say, 80 per cent in releasing the potential energy in the individual. In estimating the total available but unreleased potential energy in man for contribution into organizations for human enterprise, I have been very presumptuous: Obviously, I do not know what it is. I am confident that it is far greater than has been glimpsed so far; and that sometime the future will reveal a now-hidden energy in man that is comparable to previous hidden energy in the atom we have already uncovered to reveal 3,000,000 times more than we thought existed before.

In today's situation though, and for the presently foreseeable future, Atorgenics (when taught, learned and applied) can double, triple, and quadruple the present release of man's energy into our organizations for human enterprise—military, business, governmental, and social.

B-57 Light Bomber Flights Successful

The U. S. Air Force and Martin, Baltimore, yesterday announced production and successful first flights of the RB-57D and the B-57E, two new versions of the basic B-57 light bomber.

According to the joint statement, the RB-57D is a high altitude airplane which is being used as a test bed for two J-57 jet engines each of which is rated in the 10,000 lbs. of thrust class.

The B-57E is similar in appearance and airframe to the B-57B but is especially equipped to trail an aerial target at the end of a long cable and thereby provides a high speed airborne object upon which our fighter aircraft and ground batteries can sharpen their shooting eyes.

In the report entitled, "Department of the Air Force Appropriations for 1956" which was presented during the hearings before the subcommittee of the Committee on Appropriations of the House of Representatives, during the 84th Congress, the following statement appears:

"The only substantial change in the flying support forces is an increase in the two target squadrons to provide for more rocketry practice. . . . Thus, these additional tow-target squadrons, which will receive B-29 aircraft initially, will be re-equipped with jet-powered B-57 aircraft that are being procured with fiscal year 1955 funds to step up target towing speeds and altitudes."

Army Needs Aeronautical Engineers

The army needs aeronautical engineers, so it is initiating a 2-year graduate-level civilian education program. Ten spaces have been tentatively allotted for fiscal year '57 for officers of the Combat Arms. Selected students will go to Georgia Tech or MIT. Six positions, Army-wide, require combat arms officers trained in Aeronautical engineering at the Master's degree level. The Army now has only 10 officers in that category and estimates it needs 24 and expects its requirements to increase.

Rhoads Appointed Nuclear Lab Director

W. R. Rhoads, chief staff engineer of Lockheed Aircraft's Georgia Division at Marietta, has been appointed director of the Georgia nuclear aircraft test laboratories to be operated for the U.S. Air Force by Lockheed on a 16-square-mile tract near Dawsonville, Ga., in the foothills of the Blue Ridge mountains.

Mr. Rhoads will direct the work of some 500 scientists, engineers, technicians and service personnel who will conduct a research and testing program when the laboratories and research reactors are ready for operation.

He was a project engineer with Lockheed's Vega subsidiary for a time during World War II. He came to the Lockheed Georgia Division in early 1954 to establish its military operations research division and in November, 1955, was named chief staff engineer.

The Case Method Helps Post Commanders

By Frank Kowalski Jr., Colonel
Commandant
Command Management School
Fort Belvoir, Virginia

THE COMMAND Management School is pioneering in the Army in two significant areas: (1) management instruction for our commanders and key staff officers, and (2) the case discussion as a method of instruction.

Since the opening of the School on November 29, 1954, more than five hundred officers and civilians of the Army, Navy, Air Force, Marines and Coast Guard have completed the three weeks' course of instruction in Command Management. It is anticipated that by the end of the fiscal year about fifty generals and one out of every eight colonels on active duty in the Army will have attended this course.

The case method of instruction which has proven so successful in executive training programs in our universities, has been enthusiastically received by the participants at the Command Management School. It is now being utilized by some of our service schools, and last fall it was introduced in the Army War College. The school has assisted several Reserve Units in the Washington area to try the method in their evening sessions and it is anticipated the application may be extended to other than management training in the Army.

The cases studied at the Command Management School are records of management incidents which have actually taken place on military installations. These problems form the basis for lively discussions by the participants and stimulate a most valuable interchange of management views and ideas. Customarily each case is scheduled for fifty minutes classroom discussion. Prior to the classroom discussions the cases are studied by the individual participants and discussed in the small Discussion Groups into which the class is divided.

The faculty member is in no sense an instructor. He serves as a discussion leader, encouraging the participants to examine and dissect their problems. His responsibility is to guide the movement of learning and to create a permissive atmosphere in the classroom. As a responsible member of the discussion group, the leader may express his personal views. He also normally summarizes the discussion at the end of the period, but there are no school solutions announced or even implied at the Command Management School.

With this very brief explanation, I should now like to introduce the Case of Fort Doran and through its discussion demonstrate how community relations problems can be examined by the case method. This case was initially prepared by Harbridge House Inc., a management consultant firm of Cambridge, Massachusetts. After several presentations, the case was extensively revised by the school faculty. Only so much of the case is extracted here as is essential to the clear understanding of the classroom discussion. Though the various classes have followed a fairly uniform pattern, the discussion presented here is a composite of the ideas and views expressed by members of the first eleven classes of the school.

The Case—Fort Doran

At Fort Doran the Army operated a reception center and training division. In addition to the "housekeeping" mission, other activities included providing a separation center, hospital facilities for overseas evacuees requiring medical attention, several schools, and a number of active Army units in the Post Training Cycle. During the war this Post had been several times its present size. Since early 1947 when its complement was cut, its total military strength had remained at approximately 17,000; in addition, a fairly stable complement

of 1,500 civilians was employed there.

Located in an essentially rural area, Fort Doran's nearest neighbor was Boothe, a town of about 11,000 people whose municipal limits extended almost to the main gate of the Post. Five miles to the other side of the post lived the 3,000 residents of West Lowe. The majority of people from both towns made their living primarily from the Post, either directly by working there or through local businesses which thrived on post customers—laundries, bars, drug stores, clothing stores, gas stations, and the like. Apart from these two towns, the surroundings consisted of orchards and farms, trout streams, and, a few miles to the south, a wooded lake which was the center of the social life of the area during the summer months.

The main thoroughway to Dobson, an industrial center forty miles away, ran alongside the post. Although many of the post personnel owned automobiles and headed for the city whenever they had pass or leave, the streets of the local communities were rarely empty of men in uniform. This was regarded by the townspeople as a mixed blessing. They were aware that the Army was by all odds the largest single employer in town and that many of the local businesses would collapse if it were not for the patronage of military personnel. But accompanying the soprano of the cash registers was a bass of resentment against the Army. Soldiers captured the best seats in the movie theaters, filled up the bars, staggered down the streets whistling at the girls, crowded the beaches, threw beer cans in the brush at Long Lake.

In the late summer of 1954 Major General James D. Baxter returned from a tour overseas to take command of Fort Doran. Before proceeding to his command, General Baxter reported for a briefing to Nth Army in whose area Fort Doran was located. The Army Commander, Lieutenant General, Stark greeted him warmly and then with some concern related the situation described above.

"So you can see, Jim, the situation at Fort Doran is not good," continued Lieutenant General Stark. "Last summer a petition was circulated among the civilians asking that Long Lake be declared off limits to military personnel. The step was not taken only because the Post Judge Advocate pointed out that many of the men in the reception and separation centers had families or friends with cottages at Long Lake. Visiting them would involve a risk of arrest and possibly a sentence in the stockade if the lake area were declared off limits."

"Last spring and summer an unusually large number of soldiers from Fort Doran were picked up for traffic violations. I've been told that a soldier could hardly drive out of the gate at night without being arrested for speeding or some other traffic violation. The commanding general finally had the Fort Doran plates removed and the number of traffic violations has decreased considerably.

"Our publicity at Fort Doran has been especially bad. Last month four MPs were accused of statutory rape. The Sheriff and the Post Judge Advocate got into a hassle about turning over the men to the Sheriff. The incident broke on a holiday when the state police first asked the Post Judge Advocate to turn the four MPs over to the police. After some discussion the police agreed to pick them up the next day. The sheriff, having jurisdiction in this area, however, demanded the Judge Advocate to turn the men over at once. When the Judge Advocate would not comply, the sheriff threatened to go to the newspapers. He did, and the press jumped on the story. The local weekly, all the papers in Dobson, the industrial center 40 miles away, the major newspapers of the state capital, and even some syndicated features picked it up. This is typical of the stories," concluded the Army Commander, handing General Baxter a newspaper clipping which read as follows:

WEST LOWE CHIEF WINS BATTLE FOR CUSTODY OF GI'S

November 12. Local police today won the battle with Fort Doran authorities for custody of four soldiers charged with moral offenses involving a nineteen-year-old West Lowe girl.

The Army surrendered the four men after a long discussion of the case with the District Attorney. Police held warrants charging the men, all Military Police, with statutory rape.

"My staff will tell you more," continued Lieutenant General Stark. "You can see you have a problem down there, Jim. It will take initiative, tact and patience to work it out. I wish you luck. Please call on me if I can help you."

The Chief of Staff Nth Army repeated some of the Army Commander's stories and added several others, showing unpleasant disagreements between Fort Doran and the civilian communities. The Chief of Staff also gave General Baxter a copy of a memorandum which was described by General Ridgway in a cover letter to the Army Commander as ". . . my concept of effective Army troop and public relations." General Baxter noted particularly the following three paragraphs of this memorandum:

> As a result of the situation in which the Army finds itself today, we are confronted with an immediate troop and public relations problem which calls for positive action. Our long-range objective must be to inform the American public fully of Army activities and accomplishments, within the bounds of genuine military security, in order to instill confidence in Army personnel, policies and management, and to widen public understanding that the Army is performing loyally and intelligently in support of national aims and the public interest. To accomplish this objective, we must modify the philosophy which has for years guided the Army's action in the field of public relations. This philosophy has influenced officers to remain aloof from the public and reticent on their few public appearances. We must become more articulate and develop a positive public relations attitude throughout the Army. Too many officers look upon public relations as a defensive operation rather than a living, dynamic one.

If the Army performs intelligently and efficiently, and if we keep our own personnel properly informed, we will have gone far in telling the American public about their Army. It remains for us to present ourselves directly to the people through the various public information media and through our daily contact at the community level. Only by doing all these things thoroughly shall we be able to gain and retain the confidence and support of the American people.

* * *

Another important field in which improvement is needed is community relations. It is at the installation level that the Army as an organization comes in closest contact with the public. The installation commander's relations with the community are of such importance that he should give the matter his continuing personal attention. He should strive in every practicable manner to bring the community and his command into harmonious relations. An active community relations program is expected of each post, camp and station commander.

On assuming command of Fort Doran, General Baxter proceeded with the customary briefings and personally visited his major activities. He found both the efficiency and morale on the Post reasonably good, with enough problems to keep him interested and challenged. As he became acquainted with his command, it became increasingly evident that his major problem lay outside the gates of the Post, in the community.

THE CASE DISCUSSION

The class of fifty participants is assembled under the leadership of a faculty member. Prior to assembling in the classroom the participants have read the case the day before and have studied assigned references. They have also discussed the case the previous evening in their small discussion groups.

The Discussion Leader opens discussion. I should like to have you consider the Fort Doran case as background in public relations and also as a specific situation for our discussion this period. Let us explore the techniques which may be utilized to generate (1) good relations with the news media and (2) good relations between an Army installation and the community in which it is located. Then let us come up with a responsible plan of action for General Baxter. I suggest that we look at our problem in terms of what is the job from the standpoint of the Army in its entirety. What are the impacts of public relations on getting the Army job done? What are some of the factors that affect relations between installations and the surrounding community? You read the policy statement addressed to the Army Commanders by General Ridgway. Are you in general agreement with the views in that document? Or, do you find points of controversy?

Participant A. Do you suppose it would do any good to disagree? (The class laughs).

Discussion Leader. Well, there are some interesting statements in General Ridgway's memorandum.

For example, paragraph 1 of the memorandum says, I quote, "Our long range objective must be to inform the American public fully of Army activities and accomplishments . . .", end of quote. I grant you that this is a sound objective, but what constitutes full public information? Is this something which may be accomplished at the installation level, or is this something the Department of the Army should worry about?

Participant B. Our major problem at the installation level and in D/A is that you can't trust the reporters. They'll always slant a story to make it sensational. That's the trouble at Fort Doran and the MP incident. All of us are familiar with the exaggerated stories about the Army. And we all know it's almost impossible to correct bad publicity.

Participant C. Well—you know reporters. They have families and jobs. They must get headlines. You all know what happened to me at Fort Smith (loud laughter from the class).

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Participant D. I'll have to admit General C, the press was rough on Fort–, but I am sure you will agree the average news reporter is trying to do a good job. They are human beings. There are some good, some bad. My experience has been that the average reporter will play ball.

Participant C. I'm disappointed in what the press did at Fort –, but I agree with you–the average reporter is a reasonable person.

Participant D. Many times a slanted headline is not necessarily the doings of a reporter. The editor or the publisher may have an axe to grind. The reporter may write a perfectly honest story, but the man sitting on the desk may have a special peeve against the post or the Army in general.

Participant E. I believe your publicity will be as good as your post PIO. He should be a good mixer, a friendly accommodating person, a good handshaker. He should have the confidence of the Commander, and the Chief of Staff. He must be informed, and he must have friends on the local paper. If he is accommodating, frank, and honest with the press, the post will have good coverage and understanding.

Participant C. Oh, I agree everything depends on your PIO. I am cautious when I get a new PIO. I break him in slowly. For a while I require him to submit every release to the Chief of Staff. But as soon as I learn he has sense and good judgment, I release specific fields to him. I think it's a good idea though for the CG to approve the releases which affect him personally.

Participant F. Overseas we learned our lesson in the G-3 section. Initially we were very reluctant to tell the PIO about our operations. Frankly we were afraid of leaks. We found however that the reporters on the spot were smart. They always picked up a lead here or there, long before our PIO was aware of the situation. The results were most disagreeable. We switched to a policy of keeping the PIO informed and we not only did not have leaks, but a much smoother relationship with the news people.

Participant G. What you are saying General is that the commander and the staff should keep the PIO informed, and depends on him to get a story out at the proper time and with best foot forward. We've talked about this in another case. Members of a staff must have confidence in each other. We've got to have confidence in the PIO or replace him.

Participant C. Yes, but on the other hand, the PIO must keep the commander informed. On any serious incident I require three actions. First, a flash report. This is important, the CG should get this at once. Second, an intermediate report which is presented usually orally after a quick investigation. And finally, a full written report. The commander needs prompt information. He cannot wait for full investigations, because he is vulnerable from the moment the incident breaks.

Participant G. The PIO has an important responsibility too. He must keep himself informed. He should move around continuously, looking for good news as well as bad. And he should get the good stories out to the community. That's some of the trouble at Fort Doran. The PIO has been sitting on his hands. If he's on the ball, he will know when a story is breaking.

Participant H. I wonder if some of the problems at Fort Doran do not stem from an attempt "to hide the body." You can't hide news. The Judge Advocate should have informed the PIO and the Commander of the situation in the rape case.

Discussion Leader. Why?

Participant H. PIO has to know so that he can handle the press.

Discussion Leader. What is there in this incident that would make you believe you will get bad publicity?

Participant H. This is the kind of sensationalism that sells copy. The Sheriff knows that. He went to the press with the story. If the PIO knew what was going on, he might have been able to beat the Sheriff to the newspapers.

Discussion Leader. Maybe you can keep this quiet.

Participant C. No. Papers want stories, particularly sensational ones. I don't think you can "hide the body." I think the important thing is to get your side of the story to the press first.

Discussion Leader. How about the irresponsible reporter?

Participant A. Oh, I think if you find a reporter is not giving the post a break, some one usually can talk to the editor.

Participant D. The CG should make an effort to know the editor on a personal basis.

Participant I. Whether you have a friendly reporter or not, it will not help you to try to hush up a story. I've seen several post commanders try it and every time they got into trouble. I'm convinced you can't "hide the body."

Discussion Leader. We have to move along. What do you think General Baxter should do about his PIO activities?

Chrysler Builds Last Tank At Newark, Delaware

Tank building operations at Chrysler Corporation's Delaware Tank plant here came to a close recently with the production of the final Patton 48 medium tank under a $160,601,200 contract awarded the corporation in October, 1954.

Recently Chrysler officials announced that upon completion of the current tank contract, the 1,000,000-square-foot facility would be greatly expanded and converted to the production of Plymouth automobiles. Car production is scheduled to begin early in 1957.

Completion of the final tank concluded activity on the production line which has produced over a half-billion dollars worth of military tanks since the initial tank contract was awarded in late 1950.

Irving J. Minett, head of Chrysler's defense operations, pointed out that a pilot model of the Patton 48 tank was completed less than 11 months after ground was broken for the plant in January 1951.

"In April 1952, only 16 months after ground was broken, the Patton 48 tank was in volume production. This outstanding achievement was only the beginning of the plant's great record–made possible by the effective working partnership between Army Ordnance and industry and suported by the consistent production output of the men in the plant," Mr. Minett declared.

Participant J. He should get himself ordered to the Command Management School. (Laughter). No, seriously, I think he could adopt most of the ideas we have discussed here. Get a good PIO, keep him informed, insist that all releases go through him, encourage the staff to have confidence in him, and tell the press the facts. Most important to have an effective information program, we must have top support. General Baxter and his chief of staff must take an active interest in the program.

Discussion Leader. Thank you, and now, who has some ideas for General Baxter on how he can improve his community relations?

Participant K. Well, I'll start the ball rolling. In my opinion, every soldier and every officer and, yes, the dependants of both at Fort Doran represent the Army at the community level. You can have the most aggressive publicity program at the installation level, but if your military personnel and their dependents create a bad impression, the public is going to continue to have a low opinion of the Army and Fort Doran in particular. I'll give you an example from the railroad. They have spent literally millions of dollars advertising their service, courtesy, promptness and so on. I am sure the president of the railroad and the top officials all sincerely believe in this. Last week I had some personal experience on a railroad. It was nasty. Probably everyone in this room has had a similar experience — ill-tempered conductors, surly dining car waiters and indifferent porters. When you leave the train, you're muttering to yourself, "Boy, that's the last time I'll ride on that line." The same thing is true of the Army.

Participant B. It's the same old story—"Some SOB doesn't get the word."

Participant L. I don't think this is a one-way street. The community has a responsibility to the post. General Baxter has to sell the Chamber of Commerce, the businessmen and the local citizens. People have all kinds of views about the Army. Some people are very friendly. I know industries which will not hire a man unless he has been in the service. Some businessmen on the other hand will not recognize veterans' rights. There are communities which offer nothing to the military and want everything. Too many of them want everything.

Participant M. Our problem is more basic. It stems from the traditions of our country. The soldier is a hero only during the war. I remember after World War I in some localities in this country, it was too bad for you if you were caught on the street in uniform.

Participant N. I'd like to back up Colonel M in what he says. The Army has always been a football. The Navy and the Marines never get behind the eight ball like we do. Not even our fly boys. I don't know how they do it but they convince the public they are doing a great job. I don't understand it.

Participant C. I do. There's a very simple explanation. There isn't a Congressman in Congress who doesn't know how to run a division. And every newspaper man is an expert strategist and tactician. But you haven't heard of any of these people trying to run an aircraft carrier or atomic submarine or a P-47. The Army is in the backyard of the community while the Navy is off somewhere and the Air Force is up in the wide blue yonder.

Participant O. I would like to go back to what Colonel L said. I suppose he's too old to be convinced, but I don't agree with him. I disagree that the communities want everything and give nothing. I agree with what he says about a two-way street. But we may have to go more than 50% of the way. Once you get the gate open, and encourage exchange of ideas, I am convinced you can get any community to cooperate, no matter where it is—in the United States or overseas.

Discussion Leader. How do you suggest we open the gates?

Participant O. In my opinion General Baxter or the Army should make the first move. The Army needs public understanding. To start, General Baxter has a job to do on his staff. He should hold a conference. Include his Chief of Staff and particularly his PIO, Provost Marshal, Judge Advocate, Special Service Officer. He'll find out a lot about the community from his staff. And then he can announce his public relations policy, develop a plan, and make a coordinated move on the community with all of his facilities and staff directed towards better community relations.

Participant P. This post is an example of improper indoctrination. General Baxter should include the Chaplain and the Commanders of troops in his conference.

Discussion Leader. Anyone else can help.

Participant D. Yes, the Chief Civilian Personnel. He can have a strong influence on the civilian employees of the post and they in turn can help out with the community.

Participant Q. All the staff must get into the act. But I think the most important problem facing General Baxter is to indoctrinate his troops in how to live in the community and with the community. In my opinion public relations or community relations goes down to the individual soldier. He is more important in good public relations than the staff. We must somehow get the soldier to realize that he individually is the representative of his company, his regiment and his post. I believe if General Baxter can explain the problem to his troops, and encourages their participation in the program, there will be a perceptible improvement in community relations. In a foreign country, you have heard the expression—the soldier is our good will ambassador. The same is true here. If he lives in the civilian community he should become part of the community. Join the church. His children should join the Boy Scouts. He should participate in the social activities of the community. As a soldier on pass, he must act as a dignified representative of his outfit. General Baxter has to indoctrinate his troops to be courteous, respectful and decent acting people. It won't do any good for the old man or his PIO or the Chaplain or anyone else to go to the papers with a high sounding publicity program if the troops are going to take the

Thule Air Base, in northern Greenland, the most northerly point where Americans have built a permanent air base, was constructed by Army Engineers.

town apart every payday. The troops must have an interest in the community. Community requests should be met diplomatically.

Discussion Leader. You are getting pretty close to saying that good public relations for the Army is in fact a way of life.

Participant Q. Yes, it may be.

Participant R. I don't disagree with Colonel Q, but then in this day of the great big dollar, when the local citizens, or shall I say some of them are ready to gauge you, it's not an easy task to indoctrinate troops. You can't expect to move your officer or soldier with his family into a small town where he rents a cracker box for $125 or $150 a month and expect him to be an ambassador of good will. You hit your personnel in the pocket and none of them like it. They are not going to be happy about putting out more than they are getting which is mighty little. Lack of housing, inadequate pay, pushing around from station to station—these things are difficult to whitewash. It's hard to become enthusiastic about some communities.

Discussion Leader. Someone else touched on this before. The two-way street. The people in the community have a responsibility towards the people in the service.

Participant R. Yes, but they have to be made to understand the situation.

Discussion Leader. Whose responsibility is this? Who can make them understand our problems?

Participant C. I believe the best way to tackle this public relations business is to organize a citizens advisory committee or military advisory committee whatever you want to call it.

Discussion Leader. That's a good approach. Who would you have on the committee?

Participant C. Mayor, newspapers, radio, TV, police heads, lawyers, churchmen, Chamber of Commerce.

Participant S. Reserve organizations?

Participant C. No, I don't think so—keep it civilian. Maybe educators, labor leaders. Outside the city I would bring in the state police and sheriffs.

Participant T. We have a big advisory committee in New York—it has many sub-committees. It's doing a splendid job.

Participant B. I would add representatives of women organizations and heads of veterans.

Participant F. The committee can get too big you know—especially if you want to invite the members to lunch and you have to pay for it.

Participant G. That's the trouble with all this public relations. I don't have an expense account to pay for the entertainment of these people. You have to invite them to the post.

Participant C. You can always manage a luncheon at the club. There are also other ways of entertaining them. You can invite the group to inspect the post or attend an athletic event or training demonstration. This can be followed by a luncheon at one of the messes.

Participant F. Frankly, I object on principle, to all this chiselling. The Commanding General should be given funds for this purpose. But no, he has to be shrewd and calculating. I agree with one of my esteemed colleagues who said a commander should encourage members of his organization to become active members of the community. We live in a small community in ——. My officers and I and our families all participate in the community activities; we have joined the Rotary, the Chamber of Commerce, the Boy Scouts, etc., and etc. This costs me money. I recognize the importance of what we are doing but no business firm would expect its officials to foot these bills.

Discussion Leader. Ever mention this to your civilian friends?

Participant F. No frankly, I haven't. I don't like to chisel. That's my point.

Participant M. I think the commander has in important obligation towards the local community organizations. It's an obligation of his office. He cannot avoid it.

Participant U. I would like to go back to the committee. I sense some controversial problems. Someone suggested including church dignitaries. From which church or churches? You can certainly get yourself into trouble here.

Participant E. I think the problem is more basic than the selection of church dignitaries. I can see trouble if General Baxter or any commander selects his own advisory committee. There is always a danger of leaving someone out. The selection of a committee should be the responsibility of the civilian community.

Participant H. Chamber of Commerce organized the Military Affairs Committee at Fort ——. On our post the motivation comes entirely from the civilian groups. No feelings are hurt by this procedure.

Participant J. If I were General Baxter I would contact and get assistance from the Civilian Aide to the Secretary of the Army. There is at least one in every state. I agree, I certainly would not attempt to form my own committee. The Civilian Aide could be very helpful in this area. He could put General Baxter in contact with the proper people to take responsibility for the committee. The Civilian Aide can also be useful in many other ways. The commander should very definitely seek him out.

Discussion Leader. If we have such a committee, how would you use it?

Participant N. I think the most important thing is to keep the committee informed on all those matters at the installation which may affect the interests of the community. Then, acquaint them with your problems. Give them the facts. Invite the whole committee or representatives to visit the post, observe training, participate in the activities. Encourage understanding of mutual problems.

Participant V. I would use the committee to help me solve my problems. The public pressure such a committee can exert can be most effective. I think the initial approach is very important. The post commander should make the first move to get acquainted with the committee members and to win their confidence.

● Lockheed's new F-104 air superiority fighter and interceptor will not carry the Hughes Falcon air-to-air missile. The GAR-1, however, is definitely tabbed for Northrop F-89H, Convair F-102 and McDonnell F-101.

Discussion Leader. You mean he should lean over backwards to cooperate?

Participant V. Absolutely. I think the committee can help solve many small irritations. The post commander should not only get acquainted with the committee members, but he should make a special effort to call on the mayor and other important officials in the community.

Participant D. I think this calling business can be overdone. The post commander is an important person in the community. He should not depreciate his position. I don't believe he should go around calling on every Tom, Dick and Harry.

Participant V. I agree, but my point is that General Baxter, particularly in this situation, should take the initiative. There's a lot of bad feeling here. He has to be tactful, patient, and certainly lean way over backwards to cooperate. He can do much to open the gate for this two-way street by making the first moves. To call on the mayor and some of the other local officials will do a lot of good.

Discussion Leader. We don't have much time remaining in this period. Are there any other specific things the commander or staff can do to develop good community relations?

Participant W. In addition to the Military Affairs Committee, on our post we have encouraged the organization of businessmen who do business with the post. They have a personal interest in our activities and are very helpful in encouraging good publicity.

Participant B. I think it's very important for the commander and the staff to attend community meetings and address gatherings.

Discussion Leader. Won't that get you mixed up in politics?

Participant B. Well, I don't advocate running for office. The commander has to be careful. If he is, he won't get in trouble. As a matter of fact, I was invited to a political rally. I went in civilian clothes and kept my mouth shut.

Participant R. Politics, or shall I say politicians can be very useful. At our post the governor was especially helpful. Through his assistance our training battalions were adopted by groups in the community. At the end of each training cycle we would celebrate with a field day which was supported by the townspeople. In this way a very friendly and close relationship was built up between the soldiers and civilians.

Discussion Leader. Any other suggestions?

Participant D. Yes, when I was stationed at Camp ——, we used our band most effectively. We were very liberal in complying with the requests of the neighboring towns for the use of the band. We sent them to play in the parades, civic gatherings and even Combos to High School affairs. The PIO spark-plugged these activities. It was rough on the members of the band, but we took care of them with passes and they really didn't hurt much.

Participant I. Did you have any trouble with the unions?

Participant D. Yes, at first, but the PIO was an operator. He visited the union leaders and won them over. The communities did the rest. Any activity desiring a band had to comply with two requirements (1) furnish transportation, and (2) produce a clearance in writing from the local musicians' union. They always managed to get the clearance and there was no problem for us.

Participant A. We had some difficulties with the police and the newspapers at Fort ——. The CG solved it by sending a team including the PIO, Judge Advocate General and the Provost Marshal to all the towns within 100 mile radius. They explained our problems to the local officials, won their understanding, and made agreements on the spot for handling future situations.

Participant U. The post commander would do well to develop the acquaintance of the Congressmen from his area. This man has a special interest in the military installation in his district. It would take little urging to have him participate in the post activities and he can do much to keep the pressure off the post and encourage goodwill. It is greatly to his advantage to have a harmonious civilian-military relationship.

Participant L. There are several

The first Inspector General of the Army was a German, Baron Frederick W. A. von Steuben, appointed by General George Washington on May 5, 1788, with Congressional approval.

actions that have not yet been mentioned. The commander has much to offer and show the community. At Camp—we had a band concert every other Sunday evening. The event was always well advertised in the neighboring communities and periodically one of the towns was selected to be honored by a special band concert. We had excellent participation from the towns nearby. Then we also encouraged the civilians to attend our athletic games, football, baseball, basketball and the fights. The young people particularly can do much to generate good community relations and you can satisfy them so easily.

Discussion Leader. Gentlemen, our time is up. I would like to take the last few minutes to summarize your discussion.

First, we talked about public information. We all agreed that to have a successful information program at the installation level the post commander must take an active personal interest in the program. He must have confidence in his PIO, delegate responsibility to him, and take steps to insure that the PIO is informed and is kept informed by the staff. There must be a friendly cooperative atmosphere developed between the post and the press representatives. And we all agreed that you cannot have good publicity if you try "to hide the body". Give the newspapers the facts.

In our discussion on community relations we talked about the importance and the need for public understanding of our problems. You expressed the views that:

Each person in the Army has an individual responsibility for good public relations.

A special effort must be made to indoctrinate our troops and to enlist their participation in the program.

Good community relations should be a two-way street between the

installation and the neighboring towns.

The Army and specifically the installation commander ought not to be reluctant to make the first move.

The installation commander may find it necessary to go more than half way to cooperate with the community.

A civilian advisory committee is a very useful and effective tool for developing and maintaining good community relations.

The installation commander should contact and seek assistance from the Civilian Aide to the Secretary of the Army.

Army personnel have a broad social responsibility to the neighboring communities.

On the other hand the communities have an important responsibility to the Army installation.

Let's take our coffee break.

This case discussion illustrates the stimulating, interesting and pleasurable manner in which opinions and ideas of the participants are explored and accepted or rejected, not by the authority of an instructor, but by a forum which boasts more than a thousand years of experience. Although the discussion of the Fort Doran case led to general agreement among the participants, the exercise is not intended to culminate in an approved solution. On the contrary the case method encourages an interchange of views which must be defended and tested against the practical experiences of men who have had to face and solve similar problems in their careers. For in this methodology the members of the class are both students and instructors. And so there are no panaceas dictated from a learned platform nor are there inflexible school solutions propounded by an infallible faculty committee. It is the firm belief of the Command Management School that the prejudices and complexities of human relations can seldom be resolved in one correct answer. And, it is doubtful that there is a more effective methodology than the case discussion to examine, consider, and evaluate these prejudices and complexities.

PRODUCTS

designed to deflate production Costs

As a service to OPERATING DEPARTMENTS and PURCHASING OFFICERS, ARMED FORCES MANAGEMENT will provide you with a selected list of manufacturers' products.

How to Use Armed Forces Management's Library—

Inserted in this issue, a postage free card is provided for your convenience in requesting descriptive and informative literature. This will be forwarded to you, without obligation. Many cost saving ideas are generated by Operating Departments that have referenced information on products available. Purchasing Officials will find this type of information invaluable. All that need be done is: fill in name and address, circle that which will assist you, and drop in the mail.

BELCO REPLACEMENT FAUCET STEMS

Miller Manufacturing Company. Leaking compression type faucets, lost water and excessive maintenance costs are gone forever with the installation of Belco ball bearing replacement stems, complete with bibb washers. To insure perfect replacement, stems are made to order from a sample sent in by the purchaser—housing authority, military installation or institution. Stems include the Belco valve seat unit. The moment the rubber faucet washer contacts the seat its turning action stops and the ball bearing takes up the load, exerting non-turning pressure on the washer seat. The bibb washer is only under compression and is not subject to cutting or grinding action.

For more facts request No. 1 on reply card

WATER STORAGE

Crystal Research Laboratories, Inc. There is no longer any need

to store and handle bulky containers of de-mineralized water. It can now be had "faucet fresh"—and fast—with the new low cost portable Crystalab DEEMAJET Model DF-128 (see cut) ion exchange water de-ion-izer. Deemajet is non-mechanical, pressure operated, connects to any faucet and produces instantly de-ion-ized water of high quality at a flow rate as great as two gallons per minute. Other important features include jet feed with up-flow through resins thus preventing channeling and insuring maximum efficiency, greater consistency, lower operating cost.

For more facts request No. 2 on reply card

PHOTOCOPY EQUIPMENT

American Photocopy Equipment

Company. Apeco's new all-purpose copy-maker will mean time and money savings to your office, plus a "new-found" convenience. This revolutionary office machine enables any employee to do the work of six expert typists at a fraction of your present costs in time and money. An Apeco auto-stat copy is a picture made without using a camera. One compact unit does it all in just 45 seconds, copies any original up to 15 inches wide, any length, eliminates errors and omissions, no installation necessary, completely automatic, plugs in, free lifetime service guarantee.

For more facts request No. 3 on reply card

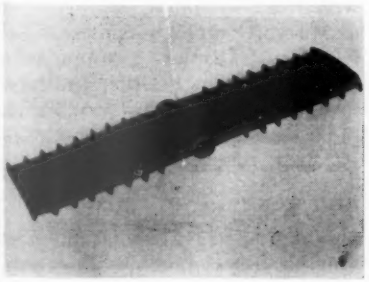
AUTOMATIC NAIL PULLER

The Bellows Company. An automatic nail puller has been added to the line of "controlled-air-power" work devices marketed by this firm. This unit, originally developed and introduced by the W. D. Allen Company, Chicago, as the "Allenco," removes nails from crates, boxes, lumber, etc., in a fraction of a second. One man equipped with an automatic nail puller can do work equivalent to that of three or four men using ordinary methods. Built around a Bellows Air Motor, the air cylinder with built-in control valve, the nail puller is easy to use. It weighs only 10 pounds. The one air connection required may be made with the 12-ft. length of ¼" hose supplied with the unit. Pulling action is quick and clean. There is no splitting or splintering. Bent, rusted, and treated nails are removed as easily and come out undamaged since the "pull" is always perpendicular.

For more facts request No. 4 on reply card

WATERSTOP EXPANSION JOINT

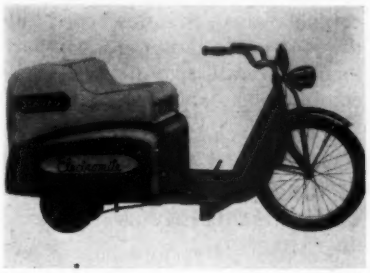
W. R. Meadows, Inc. (See cut). Production has been started on this firm's new "Durajoint" waterstop and expansion joint which is claimed to be the most efficient and economical product of its nature ever marketed. "Durajoint" is extruded from a thermo-plastic material suitably plasticized and supplied in long, flexible coils in widths from 2¼" to 9". Especially designed to be used between adjacent sections of concrete structures such as tanks, channels, tunnels, culverts, walls, roofs, and dams, it is resistant to acids, alkalis, weather, chlorinated water, lubricating oil. It has a tensile strength of not less than 1900 lbs. per square inch.



For more facts request No. 5 on reply card

ELECTRIC CAR

Electromite, Inc. A new, inexpensive electric car, called the Electromite, has been developed for personnel transportation around military bases, warehouses, etc. (See cut). It is noiseless, free of gas fumes, poses no fire hazard and



will run approximately 5 miles for a penny. It starts at the push of a button with no warm-up necessary. Running on regular automotive-type batteries, the 3-wheeled car has two speeds forward with a maximum of 20 miles per hour. The speed limit can be adjusted downward to 6 miles per hour. The built in charger plugs into any 110 volt AC socket and an automatic timer shuts off when the charging cycle is completed. Maximum range is about 36 miles between charges. Batteries under normal use will last indefinitely.

For more facts request No. 6 on reply card

ENCYCLOPAEDIA

Encyclopaedia Britannica. Surround yoruself and your family with the best, the most reasured possession of all—the bright gift of knowledge. Encyclopaedia Britannica, with its 24 handsomely bound volumes, prepared by the world's finest minds, is the largest and most complete reference set published in America.

For more facts request No. 7 on reply card

PHOTOCOPY MACHINES

Speed-O-Stat Corp. This eastern distributor for the Photograpid line

of photo-copying machines expects sales to zoom with their machines finding acceptance in manufacturing, aviation, government office and other businesses. The Photograpid line of photo-copying machines consists of seven models ranging from a compact all-in-one combination unity with 9" throat to the big 18" model. The combination machines are handsomely designed (see cut) in smooth plastic and available in six colors. All models operate under any lighting conditions.

For more facts request No. 8 on reply card

THESE PAGES ARE BEING READ

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ARMED FORCES MANAGEMENT

the only monthly horizontal magazine to all of the Defense Services and the only horizontal one with a products section of cost-saving equipment.

Your inquiry will have special value if you mention this magazine when writing advertisers. Not only does it identify you as one of the men the advertiser wants to reach . . . but, more important, it will help make possible enlarged future service to you as a reader.

U. S. Army dress blue uniforms treated with Syl-mer, Dow Corning's silicone for apparel fabrics, will be available to officers and enlisted men this fall. Made by Lansdale-Hampton Uniform Corporation these uniforms fashioned of Syl-mer finished fabric require less pressing and cleaning because the finish reduces wrinkling and imparts durable water repellency and stain resistance. Now worn only at formal functions, the recently adopted official dress uniform is rapidly replacing greens and pinks for off-duty wear. The uniform above, of all-wool Syl-mer treated elastique, is hand detailed and lined with Skinner satin. From $125 to $150 complete, at leading military clothiers and department stores throughout the United States. Lansdale-Hampton is also using fabrics finished with Syl-mer for Air Force silvertan summer uniforms, now available, and Air Force blues for fall.

CONVEYORS

Metzgar Conveyor Co. Catalog No. 546 is available on request from this firm, "purveyors of conveyors to Industry." This firm's complete line of gravity and power conveyors and auxiliary equipment is described fully. All the equipment, available in any line in your choice of five colors, is designed and functions to give your installation engineered systems to handle your handling at a saving.

For more facts request No. 9 on reply card

ELECTRIC HEAT UNITS

Heatube Corp. Catalog No. 53 describing the equipment available from this firm "when dependable electric heat is required" is available upon request. The catalog contains 28 pages of data, information, and capabilities on Heatube electric heating elements and devices which runs the gamut of quality electric heating equipment.

For more facts request No. 10 on reply card

COMBINATION CABINET

Precision Equipment Co. (See cut). A particularly desirable feature of this all-in-one combination

cabinet is its hidden vault with combination lock which is designed to give double protection to valuables and provide a place to keep private papers really private. The cabinet also contains card file drawers and a storage compartment. Overall size of the entire combination cabinet is 32½" high x 30½" wide x 17" deep.

For more facts request No. 11 on reply card

TEMPERATURE TEST CHAMBER

Statham Development Corp. (See cut). A new 6-page bulletin on the new Model TC-2A Temperature Test Chamber is available

upon request. This bulletin describes in detail the operating principle and procedure of the TC-2A Temperature Test Chamber and lists complete specifications as well as all maintenance information. The test chamber is portable, versatile, and permits accurate temperature control, gives reliable performance, completely self-contained, rugged construction, long life, handsomely styled, and available at low cost.

For more facts request No. 12 on reply card

WEIGHING SYSTEM

A. H. Emery Co. Outstanding capacity to operate successfully under extremely rugged and adverse conditions is claimed for the EC weighing systems. Ideal for bin, tank, platform and conveyor weighing applications, Emery systems are also well adapted to the measurement of jet engine thrust, dynamometer power measurement, and wherever force or weight must be measured with optional remote dial indication. System is engineered to operate without leakage or friction.

For more facts request No. 13 on reply card

DEFENSE PLANS

Association of American Railroads. Defense plans for the nation's railroads against possible enemy attack upon the continental United States are outlined in a booklet just published by the Association of American Railroads. The 24-page illustrated manual entitled "Railroad Planning for Defense . . . a Guide" is available upon request and was prepared in cooperation with the Office of Defense Mobilization, the Transport Mobilization staff of the Interstate Commerce Commission and the National Railroad Defense Planning Committee, which is composed of the industry's top operating officers. The booklet stresses particular factors and problems of railroad maintenance, operations and protection of equipment and facilities.

For more facts request No. 14 on reply card

AIR TRAFFIC MONITOR

American Machine & Foundry Co. The Boston Electronics Division has developed, under contract to the U. S. Signal Corps, a special cathode ray tube display facility for presenting information pertaining to an aircraft traffic situation. Essentially, the equipment is the electronic equivalent of existing manually operated plotting boards which are becoming less effective as aircraft speeds increase. The Electronic Display Equipment is basically a Plan Position Indicator for a trace-while-scan surveillance radar system.

For more facts request No. 15 on reply card

AIRCRAFT FUEL GAGE

Liquidometer Corporation. This firm has developed the first tran-

sistorized aircraft fuel gage to operate at 100 degrees C., providing increased gaging accuracy and reliability at high temperatures for today's high-performance aircraft. The new gage, which uses silicon transistors, is less than half the size of current vacuum tube models. It operates as an integral part of a capacitor-type measuring system.

For more facts request No. 16 on reply card

PUSH-BUTTON COFFEE MAKER

Best Products Co. Best has introduced a new, completely automatic push-button coffee maker line which has a reported savings of 2½ cents per cup served. Best also has developed a unique conveyor set-up making it possible to serve coffee with or without cream from one single station. This conveyor line is normally connected to 2 or more coffee chambers, thus eliminating the labor and attention of one operator. Records show that one person can serve 17 cups of coffee per minute. Brewing capacities are from one to 20 gallons.

For more facts request No. 17 on reply card

SPARKPLUGS

American Eagle Corp. A new cold headed electrode is the latest development of this firm for its unique radial cathode spark plug. Broader by 25%, this electrode shoots a full circle of fire to a flash-point area of 360 degrees instead of the single lane sparking on conventional plugs. This results in a hotter, stronger spark. Pre-set at the factory for all makes and years of cars, American Eagles require no testing, checking or cleaning at tune-ups since no gap loss ever occurs under any working conditions.

For more facts request No. 18 on reply card

STRIP BRUSHES

Los Angeles Brush Mfg. Co. "Channel Lock" strip brushes have been added to the Los Angeles firm's line of commercial and industrial brushes. Versatile "Channel Lock" brushes have many applications in the industrial field. Construction is accomplished by folding the filler around a rust resistant wire and crimping it in place by means of a lightweight aluminum channel. Advantages claimed over the drill-and-fill method include light weight and economy.

For more facts request No. 19 on reply card

COIL TECHNICAL DATA

Dean Thermo-Panel Coil. Bulletin 355 on the Dean Thermo-panel Coil is available upon request. The coil is a new and better means of solving heating and cooling problems. A Dean Thermo-Panel Coil consists of two sheets of metal, embossed to form channels, then seam welded. The bulletin gives information of operating pressures, industrial heating, heat transfer coefficient, choosing Dean Thermo-Panel Coils, pipe coil comparison method, capacity table method, heating problems, determination of Delta T, wall and surface losses, material load, spray and makeup loads, pressure drop, number of embossing, weight, charts, conversion tables, etc.

For more facts request No. 20 on reply card

MUTUAL INVESTMENT FUND FACTS

Brown, Madeira, and Company. This company, specializing in mutual investment funds, will send, without obligation, facts about conservative, middle-of-the-road, and aggressive types of investments and mutual funds.

For more facts request No. 21 on reply card

VISUAL CONTROL BOARD

Wassell Organization, Inc. Produc-trol not only schedules but automatically checks with time, line, and color control, has low original and upkeep cost.

For more facts request No. 22 on reply card

EFFICIENT SIRENS FOR MILITARY VEHICLES

Federal Sign and Signal Corporation. Specifying Federal sirens, available in 6 different classes and 34 different models, will insure procurement of an efficient signal and adequate warning device for military vehicles.

For more facts request No. 23 on reply card

COMMON STOCK INVESTMENT

Hamilton Management Corp. Through Hamilton Funds, Inc., a managed common stock investment fund, this firm offers lump sum or monthly investment plans to fit any budget. Interested persons can inquire without obligation. Firm recently declared another quarterly dividend.

For more facts request No. 24 on reply card

VISUAL MANAGEMENT CONTROL

Graphic Systems. This New York firm invites men interested in efficient management to get things done with Boardmaster Visual control which gives a graphic picture of operations, spotlighted in color, saves time, money, and stops errors.

For more facts request No. 25 on reply card

FREE STORAGE LAYOUT SERVICE

Equipto Division of Aurora Equipment Co. Free layout service to assure better storage facilities for less money is available from Equipto. Take advantage of valuable advice on the number and kind of storage units to buy, furnished with complete floor plans and elevation drawings.

For more facts request No. 26 on reply card

ALL-PURPOSE HAT AND COAT RACKS

Vogel-Peterson Company. Snap-over hooks to replace hangers give double capacity in same area. Checkerette racks can be set up or taken down in a minute without nuts, bolts, or screws, are strongly built of welded heavy gauge steel.

For more facts request No. 27 on reply card

GOVERNMENT INSURANCE

Government Employees Insurance Company. Complete protection on automobile insurance plus savings over standard rates of up to 30% are available from this firm. Unexcelled claim service and nation-wide protection are offered by this firm.

For more facts request No. 28 on reply card

6000 C. P. FLOODLIGHT

Wm. W. Lee & Son. Available on 4 to 8-foot telescopic stand or tank bracket mount, this floodlight with adjustable volume light is portable, safe, instant lighting, throws beam 250 x 100 feet.

For more facts request No. 29 on reply card

The Pen of Management

by Harold A. Zahl

Perhaps the most difficult subject for one engaged in engineering management to write upon is engineering management.

True, the chances are that on his way up to his present lofty position, any such author will already have written lucidly for a dozen technical journals; have one or more authoritative scientific books to his credit; and even perhaps conceitedly feels he could earn his living by allowing his pen to go free-wheeling into science fiction, should the requirement ever present itself.

But not so easy with management as a subject.

The enterprising author on this subject will find many "peculiarly critical" readers. Within his own organization, managers have managers over them, and these the writer must try not to displease, lest doubt is born as to the lesser manager's right to manage. Below the venturesome manager-author are the even more important people of his own organization—critical down to the boy who empties the wastebaskets. In fact, let one remark appear in writing suggesting a utopian concept which, for various reasons, may not obviously be a part of the author's own command structure—then to those who "know better," the writer immediately becomes guilty of deliberate deceit and is without honor.

Managers in organizations beyond the author's own, however, enjoy everything written on other people's problems. But I am sure as individuals, we all wonder from time to time how any obviously confident author writing on matters of his own experience would have treated "more difficult subjects"; for example, like those which the reader encounters in his own organization!

Lest too many questioning eyebrows have now been raised, please be assured I am not being critical of authors daring enough to select management as a subject—rather I intend sympathy, which I not only give, but also seek.

But back to my point—how can our much maligned, albeit relatively well-paid managerial group, collectively effect a maximum exchange of information to the overall benefit of the organizations we serve? Here are a few thoughts which come to me and then I shall desist, leaving space for the more erudite writing of others:

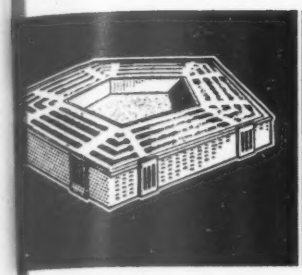
(1) In our meetings and in this publication, we must dare to more openly discuss or write about unsolved problems. Reports on successes are wonderful and make good reading; however, discussion of shortcomings to bring on provocative and possibly contributing suggestions may be even more interesting and helpful.

(2) Much can be learned from case-type studies selected as items carrying broad rather than local interest. Thus others may better learn to adjust their actions when they observe similar cases within their own organization.

(3) The broad problems of academic institutions, industrial and/or government laboratories, overlap obviously in that all three deal with people and dollars, but in certain delicate areas they each develop peculiarly individual problems involving three or more different sets of ground rules. We must thus recognize that detailed formulae applicable to successful management of all types of technical establishments cannot be prescribed. We have success defined as research and development leading to saleable products; success as defined by service to a community or a government bureau; success as defined by scientific contributions having no foreseeably practical applications; and who in a military laboratory could prove success short of saying "a war has been won," and with the realization that the efforts of his organization were important in such a victory?

As managers of many American laboratories, we are all charged with pushing science and engineering ahead in a way to directly contribute toward a way of life we wish to pursue, expand—and if necessary, defend. Survival of our nation may depend on our success. Regardless of individual criteria, we all gain through fuller understanding — whether our success definition depends upon the dollar, public service, the technical publication, or on defense.

Toward this broad objective the PEN OF MANAGEMENT has hardly started to make its full power felt. Therein lies a challenge to the members of this Association.



Washington Management

Department of the Army. Gary Air Force Base and Wolters Air Force Base, both in Texas, will be taken over by the Army. When in full command at Gary the Army plans to use civilian contractors to train its fixed wing pilots, and this training is tentatively scheduled to begin on 1 July. Wolters will be used to train helicopter pilots under the same arrangement.

Department of the Navy (AFPS). The Navy has taken the wraps off a new high velocity gun that fires missiles about the size of golf balls at speeds of 7,000 miles an hour. First announcement of the device was made by Dr. Zaka I. Slawsky, chief of the hyperballistics division at the Naval Ordnance Laboratory, White Oak, Maryland. Until the gun's development, Dr. Slawsky said, "missiles of similar size could not be fired and photographed at such speeds." He declared it "finally removes much of the trial and error from missile research, and at the same time reduces experimental costs."

Department of the Air Force. Announcement has been made for the design and construction of a large solar furnace at a site approximately the 9000 foot level in the Sacramento Mountains near Holloman Air Development Center, Alamogordo, New Mexico. The furnace will be used for high temperature research and testing of materials and weapons components; for duplicating, insofar as possible, the thermal effects of nuclear weapons on various materials; and for high temperature research in chemical reactions.

Department of the Navy. Administration and management of aviation fire control has been consolidated under the direction of the Chief of the Bureau of Aeronautics. The Chief of BuAer is assigned cognizance of and responsibility for over-all system designs and integration of aviation fire control components. The Chief of BuOrd is responsible for advising the Chief of BuAer as to the weapons for aircraft and furnishing of ballistic data to be incorporated in aircraft fire control systems.

Department of the Army. Weatherman may soon be able to tag an ordinary-looking thunderstorm as a potential death-dealing tornado by using facts recently uncovered by the Army Signal Corps.

Accurate and specific detection, impossible with today's forecasting techniques, would give families in a danger area more time to seek safety before a twister actually strikes. Present tornado warnings are more general, stating only that "tornado conditions" exist in a large area, sometimes stretching over two or more States.

Department of the Navy. Rear Admiral Joel D. Parks, USN, is being transferred next month as Commanding Officer of the huge U. S. Naval Supply Center in Pearl Harbor. Replacing Admiral Parks as Deputy Chief, Bureau of Supplies and Accounts, will be Rear Admiral Thomas L. Becknell, Jr., USN.

Department of the Air Force. General Nathan F. Twining, Chief of Staff of the Air Force, announced that the Daedalian Trophy for 1955 has been awarded to the Air Defense Command.

The trophy, a silver cup, is awarded annually to the Air Force Command flying more than 100,000 hours which achieves the lowest adjusted aircraft accident rate during the calendar year. The adjusted rate on which the awarding of the trophy is based takes into consideration the type of aircraft flown, the normal flying conditions encountered, and the mission, as well as the actual aircraft accident rate.

Department of the Army. Lt. General George H. Decker, USA, Army VII Corps commander in Europe since 1955, has assumed the duties as deputy to General Lauris Norstad, USAF, Commander-in-Chief, U.S. Forces in Europe. General Decker will replace General Orval R. Cook, USAF, who is retiring with more than 33 years service.

Department of the Navy. The first fleet delivery of twin-jet A3D Skywarriors, largest and most powerful attack planes ever built for carrier operations, was announced by the Navy Department.

Five of the fast, swept-wing bombers were ferried to the Jacksonville, Florida, Naval Air Station to form the Navy's first heavy attack squadron. The planes were flown from Naval Air Test Center, Patuxent River, Maryland, on completion of an extensive flight test program.

Commander Paul F. Stephens, USN, commanding officer of the first Skywarrior Squadron, VAH-1, led the flight. The planes are built by Douglas Aircraft Company, at their El Segundo, California, division.

The A3D is a long range, high altitude bomber capable of taking off from an aircraft carrier in one ocean, completing a bombing mission, and landing on a carrier in another ocean. Built to perform in the 600 miles-per-hour speed range, and at altitudes of 40,000 feet and above, the Skywarrior is powered by two Pratt & Whitney J-57 turbojet engines.

Department of the Air Force. Reorganization of the Air Training Command headquarters at Scott Air Force Base, Illinois, has resulted in a substantial savings in dollars to the government. Some 80 functions have been transferred to the training air forces without any increase in personnel ceilings. By becoming solely a policy-making and inspection headquarters, four staff offices and 202 personnel spaces have been reduced.

Department of the Army. Secretary of the Army Wilber M. Brucker announced that the Army is integrating its civilian employees of United States citizenship in foreign countries into a single, world-wide career system by inaugurating an interchange program between employees in the United States and those in overseas areas.

This development is made possible by a recent Civil Service Commission decision to bring the Army's approximately 12,000 civilian positions in areas overseas into the normal Federal competitive Civil Service System.

Department of the Navy. A Navy air-to-surface guided missile is in operation with the Fleet.

A number of patrol type aircraft are equipped with the missile, which is known as PETREL.

Addition of the new missile fills out the Navy family of missiles operational for fleet use and gives the Navy four missile delivery capabilities. These are:

Air-to-surface, PETREL.
Air-to-air, SPARROW.
Surface-to-surface, REGULUS.
Surface-to-air, TERRIER.

PETREL is designed primarily for use against enemy ships at sea. Launched by patrol aircraft well outside the range of the target's air defense, the missile attacks at high speed and with devastating effect. Use of the new missile thus will save the plane pilot from the anti-aircraft hazards which attack plane aviators met in World War II when they closed the target.

Department of the Air Force, Washington (AFPS). The Air Force is planning to build a $7.5 million nuclear reactor at Wright Air Development Center, Dayton, Ohio, to test materials for a nuclear-powered plane.

Construction of the Air Research and Development Command's new reactor at Wright-Patterson AFB is expected to be completed by January, 1958, the Air Force said, for use in testing parts and systems under development.

To be known as the Air Force Nuclear Engineering Test Facility, the central feature will be a "uniquely designed" water-moderated and water-cooled reactor similar to that now being used by the Atomic Energy Commission at Idaho Falls, Idaho.

Department of the Navy. Carrier Division 7, to be commanded by Rear Admiral Lester K. Rice, USN, has been activated in the Pacific Fleet. The three Pacific fleet attack carrier divisions—1st, 3rd and 5th—are to be broken up to form the 7th. It is intended that the new division will result in more rotation for Pacific carrier personnel.

Department of the Air Force. A survey directed toward Air Force officers, is aimed to get an intimate, complete reading on the contract term officers group. Determined to hold the young officers who now make up more than a third of all officer strength, the Air Force intends "asking" the big question, "what are your intentions, and are you interested in staying a part of the service?"

Department of the Army. Lt. Gen. Charles E. Hart, USA, has assumed command of Second Army with headquarters at Fort George G. Meade, Maryland. Formerly Commanding General of the V Corps in Europe, General Hart succeeds Lt. Gen. Floyd L. Parks, USA-Ret., now director of the National Rifle Association.

World's Fastest Combat Plane Unveiled

America took its first look recently at the world's fastest combat plane—Lockheed's new, ultrasonic F-104A Starfighter, demonstrated at the U.S. Air Force Jet Center here.

Flying on razor-blade wings, the USAF F-104A is a spectacular day-and-night fighter, powered by one of the world's most powerful jet engines, the new General Electric J-79.

Its speed in climb is equal to its speed in straight-and-level flight. But true top speed has not been disclosed.

Operational altitude for the aeronautical bolt of lightning is the upper stratosphere.

The F-104A is the ship described by Gen. Nathan F. Twining, Air Force chief of staff, as "the most advanced plane of its type ever developed."

Showing for the first time its heretofore secret configuration, the lance-like Starfighter flies on thin, straight wings—almost knife-sharp—measuring only 7½ feet from fuselage to tip. The fuselage is 54 feet, 9 inches long.

The wing's leading edge is so keen that a felt covering is used to protect ground crewmen when the plane is not flying.

Foremost features of the new air weapon include:

1. Most powerful jet engine, thrust per pound, yet developed.
2. First downward ejection system for a production jet fighter.
3. A T-shaped "flying tail."

Ryan Completes First Tests of Jet Engine

Ryan Aeronautical Company today announced completion of what is believed the first qualification test run on a jet propulsion and control system in the vertical position.

The historic test was performed in Ryan's new $375,000 jet test cell, the first designed primarily for development of vertical takeoff and landing projects, with facilities for both horizontal and vertical operation of jet engines.

Over a several days' period, a 25-hour test run was accomplished, 5 hours in the horizontal position, 15 hours in vertical position, and another 5 hours horizontal.

"Despite the necessity of making the changes from horizontal to vertical position and back to horizontal, the test was performed in extremely fast elapsed time," Frank W. Fink, vice president-chief engineer, said.

The test included the entire powerplant installation, including the jet and propulsion control systems attached to the engine to determine its expected performance in actual use in a VTOL airplane.

A long period of Ryan development tests on jet engines in both horizontal and vertical positions was climaxed by the actual qualification test. Ryan is the nation's pioneer in development of a jet vertical takeoff and landing plane, completed in the San Diego factory last year and now being tested at Edwards Air Force Base.

Seversky Sees War In Five Years

Disagreeing with some experts on the future holding a series of small wars, Major Alexander P. de Seversky, world-famed exponent of air power, addressing the staff of The Army Aviation Center and faculty and students of The Army Aviation School, visualized a catastrophic conflict "within the next five or six years."

Introduced by Brig. Gen. Carl I. Hutton, commanding general of the Center and commandant of the School, the internationally known airman, who lost a leg during an air mission in 1915, averred air power will play a major part in the beginning, but after a certain percentage of the enemy's potential is destroyed, action by ground forces will be necessary, to decisively close such a war.

Emphasizing the future air transportation held, not only for the military, but for all world commerce, Maj. de Seversky said that nuclear power would advance air transport considerably, while doing almost nothing for present means of travel. He visualized future surface transportation facilities "as deserted," as all movement became airborne.

Maj. de Seversky described our progress in developing a long range capability, asserting that we've been outclassed in this field. He defended the military for this situation saying that "they (the military) had to make use of what they had," and as a consequence overseas bases were constructed and our potential production aimed at medium bombers.

"Our overseas bases," Maj. de Seversky declared, "can be wiped out in two hours by a powerful enemy," this fact alone should cause the U.S. to radically realign their thinking in terms of military offensive and defensive.

On the subject of Strategic Air Command potential, the major who holds more major awards in the field of aeronautics than any living person, said that a stalemate, such as that claimed existent at this time, is no deterrent to war. The progress of the enemy, with the help of captured German scientists is such, that they are rapidly approaching the point where they believe they can successfully challenge us. He declared that the only deterrent is an obvious superiority in war making ability.

"This does not mean a parade-ground peace time force," he said, "but the actual capability."

The famed airman lauded the Army for their position on organic aviation. Every person, he said, who sincerely believes in their purpose, should not miss an opportunity to tell their story to any who will listen. That sort of public relations he declared, is the best because it comes from the heart.

On the question of unity of the armed forces, Maj. de Seversky voiced the thought that integration of the services was essential during a period of conflict. During peacetime, however, he asserted that each service should be self-contained and allowed to develop weapons and means of using those weapons to give that arm of service their greatest capability.

The ability to deliver a bomb load, he said, is becoming increasingly difficult. There will be available shortly, means whereby every action of our enemy will be known to us; conversely, however, they will have the same information. That means that all services should exploit new theories to the utmost.

In a question and answer period following his lecture, Maj. de Seversky reasserted his belief that in a large scale war, the ground forces would be vitally necessary. He added that any weapon, airborne or not, that furthered the mission of the force using it, did not constitute a part of "Air Power."

He defined "Air Power" as air transport necessary for destroying enemy war making potential, without aid and support of any other group or device. Numbers of airplanes, he emphasized is not an indicator of true air power.

Army To Support Test By Prisoners of Vaccine for Tularemia

A vaccine for tularemia will be tested in prisoner volunteers at Ohio State Penitentiary by the Ohio State University Health Center under a contract with the Army Chemical Corps, the Department of the Army and the Ohio State University Research Foundation announced recently.

The testing is a part of the Army's preventive medicine program. Tularemia, sometimes known as "rabbit fever" and "deer fly fever," has been a health problem of importance not only to the military but to the civilian population at large.

Volunteers will be vaccinated and later will be injected with small numbers of the bacteria causing tularemia in order to ascertain the effectiveness of the vaccine.

As a control measure, some volunteers will receive only the injection of the bacteria to determine the percentage of persons in which the disease might occur in the absence of a vaccination.

Streptomycin, which produces an effective, extremely rapid cure for tularemia, will be used to treat prisoners who become ill.

In response to several requests for more information on The Scanlon Plan and what it means, we'd like to pass along the following:

THE SCANLON PLAN

THE SCANLON PLAN consists of two basic parts: (1) a social process whereby suggestions for productivity improvements can be made and carried out; (2) a formula for sharing the fruits of productivity on a plant-wide basis—according to William F. Whyte in Chapter 14 of his book, *Money and Motivation* (Copyright, 1955, Harper & Brothers, $4.00). Chapter 14 gives a brief review of the incentive bonus part of Lapointe Machine Tool Company's Scanlon plan, and describes in some detail a Scanlon-style suggestion plan, showing how it differs from traditional plans and how it involves employees in its cooperative program. We quote excerpts from Chapter 14:

Suggestion Plan: Scanlon Style

The Scanlon suggestion plan is a marked contrast to traditional systems.

In the first place, there is no individual payoff. This means that the Scanlon approach relies on a completely different type of motivation. The individual is expected to contribute his ideas for the benefit of everyone. He is rewarded, of course, but in a less tangible way. We assume that where the system

works the individual must receive a good deal of recognition from fellow workers, union officers, and management. . . .

Furthermore, the Scanlon suggestion system is not left to the initiative of isolated individuals. A definite structure is set up for the discovery, development, and implementation of suggestions. The structure operates through union and management. In every department a union production committeeman is appointed or elected. This committeeman and the foreman constitute the production committee of the department. They meet together at least once a month to discuss possible suggestions for improvement. This suggestion activity is separate from grievance handling, but the grievance committeeman is invited to sit in on discussions if he cares to do so. The production committeeman may also call in one or two employees from the department in connection with problems with which they are particularly familiar.

Above the departmental production committee level there is an administrative or screening committee composed of three management and three union representatives. It is hoped that many suggestions brought by the production committeemen to the foremen can be put into effect within the department without further discussion. However, there will necessarily be other suggestions which require higher level consideration. These are referred to the screening committee. There will also be suggestions that originate at the screening committee level. . . .

Results Achieved . . . How Were the Gains won? We shall need a good deal more research before we reach a full understanding of the spectacular results gained in some Scanlon Plan plants—and also of the failures encountered in other attempts, for there have been failures and we can learn from them too. The following analysis must be considered tentative.

1. *A new management approach.* . . . It is fashionable for management people to say that participation on the part of workers is important. But often they give themselves away by saying that the worker "must be made to feel he is participating." This synthetic sense of participation they seek to provide perhaps by distributing financial statements to workers and in other ways telling them how the business is getting along. But real participation involves changes in the behavior and activity of people. It involves getting workers to initiate changes in the behavior of management people. If management is unwilling to make any significant changes then it is futile to start on such a program.

2. *Reciprocity in initiating action.* . . . We have noted that in order for the cooperation program to succeed, management people must be willing to respond to action initiated by workers and union representatives. As we look over the cases above, it becomes evident that this initiation is not one-sided. . . . If management simply sat back and waited for union people to come up with ideas, the cooperative program would soon peter out. Management is expected to take the initiative in the solution of manufacturing problems, but in these cooperative cases management learns to take the initiative in a different way. Instead of simply initiating through giving out orders, management makes clear to the participants in the program the real problems of production that management faces. In this way management enlists skill, understanding, and intelligence that otherwise are little utilized.

3. *Ability of management to make changes.* The program requires not only a receptivity on the part of management, but also an ability to make changes. . . .

4. *Involvement of the total organization.* The Scanlon approach provides for a remarkably widespread involvement of people in the discussion of production problems. We see engineers, production schedulers, accountants, and so on contributing their specialized knowledges.

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Aerial observation, and aviation, had its beginning in the United States Army about 100 years ago. From the basket beneath a balloon purchased by the Union forces, Professor Thaddeus Lowe observed and adjusted artillery fire against targets in the vicinity of Falls Church, Va., on 24 September 1861.

The Navy's carrier-borne aircraft are within striking distance of 90 percent of the inhabited areas of the world in time of war.

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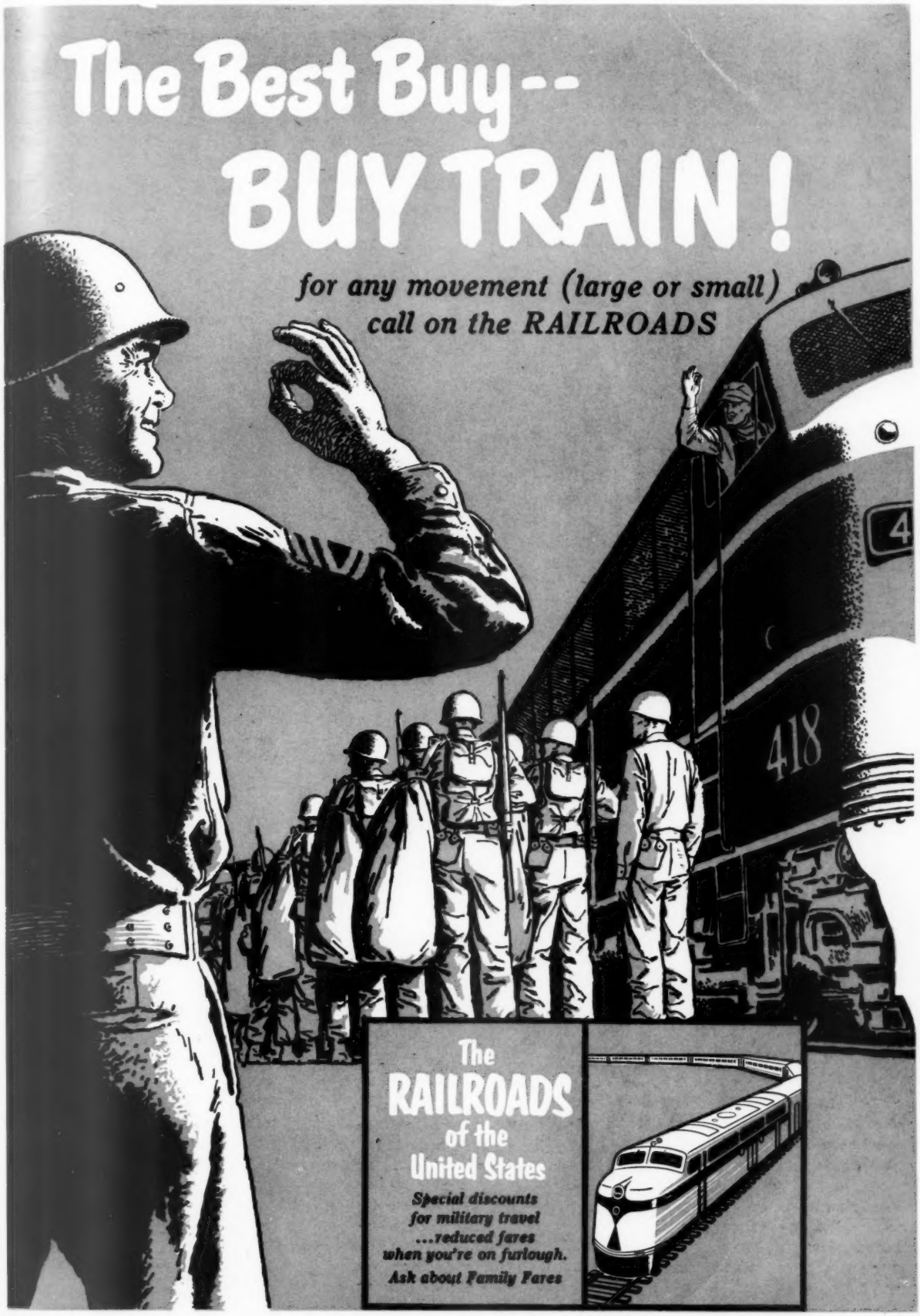

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